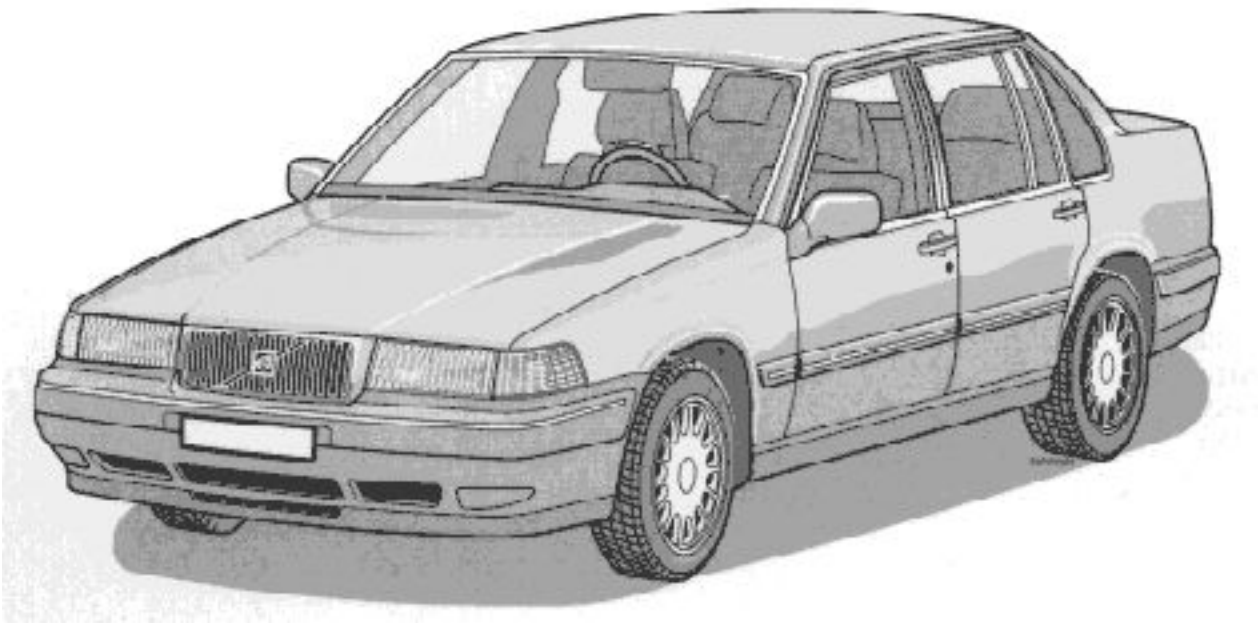
960 Owner's Manual
VOLVO
960
1996

This manual deals with the operation and care of your Volvo.



Welcome to the world-wide family of Volvo owners. We trust that you will enjoy many years of safe driving in your Volvo, an automobile designed with your safety and comfort in mind. To help ensure your satisfaction with this vehicle, we encourage you to familiarize yourself with the equipment descriptions, operating instructions and maintenance requirements/recommendations in this manual. We also urge you and your passengers to wear seat belts at all times in this (or any other) automobile. And, of course, please do not operate a vehicle if you may be affected by alcohol, medication or any impairment that could hinder your ability to drive.

Your Volvo is designed to meet all applicable safety and emission standards, as evidenced by the certification labels attached to the driver's door opening and on the left wheel housing in the engine compartment.

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Important

Before you operate your car for the first time, please familiarize yourself with the BREAK-IN information on page 4:2. You should also be familiar with the information in the first three chapters of this book.

Information contained in the balance of the manual is extremely useful and should be studied after operating the vehicle for the first time. This manual is structured so that it can be used for reference. It should thus be kept in the car for ready access.

Do not export your Volvo to another country before investigating the country's applicable safety and exhaust emission requirements. In some cases it may be difficult or impossible to comply with these requirements. Modifications to the emission control system(s) may render your Volvo not certifiable for legal operation in the U.S., Canada or other countries.

All information, illustrations and specifications contained in this manual are based on the latest product information available at the time of publication. Volvo reserves the right to make model changes at any time, or to change specifications or design, without notice and without incurring obligation.

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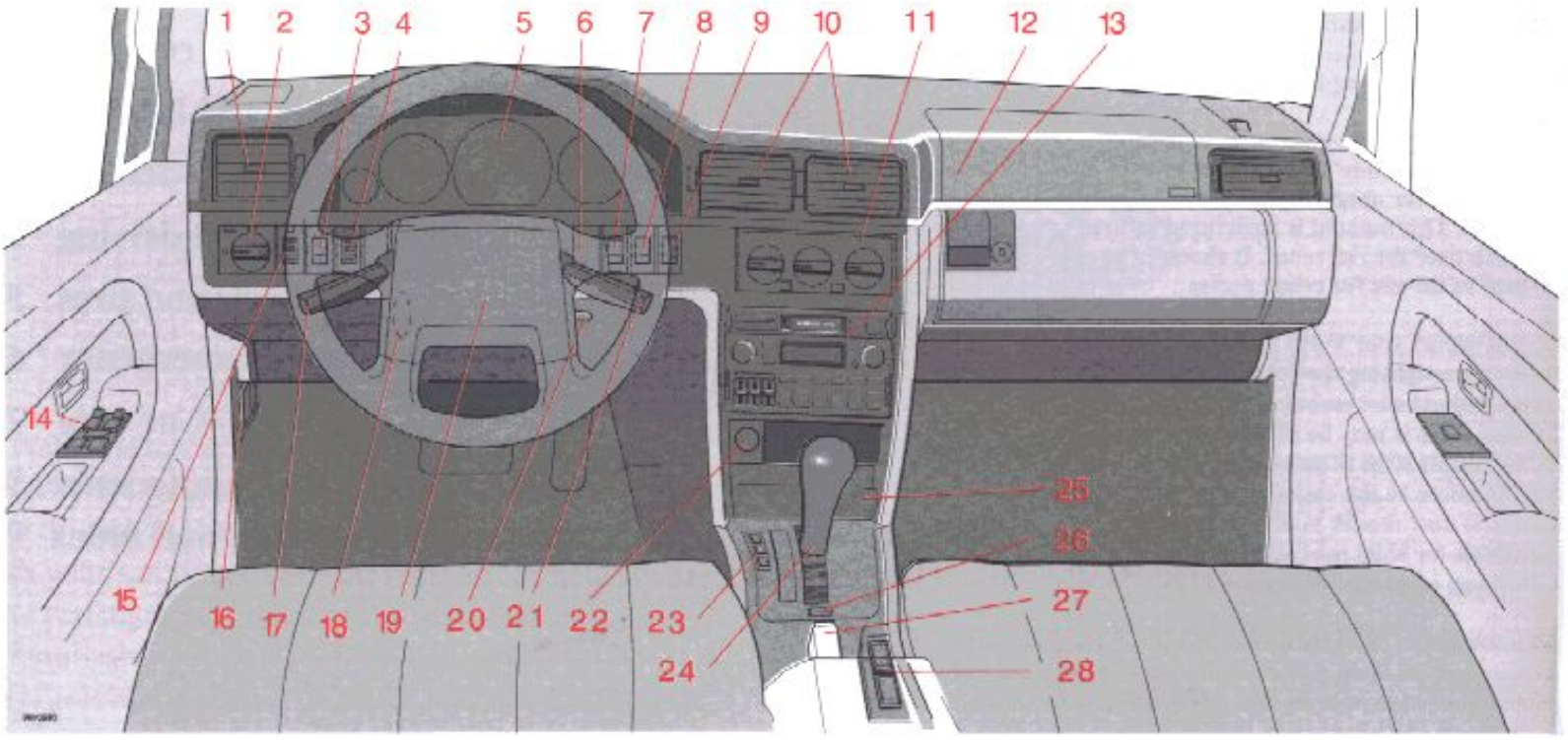
Instruments, switches and controls

Instruments, switches and controls



pg. 1:1 Instruments, switches and controls

IMPORTANT!
Your car is equipped with a Shiftlock-Keylock system.

SHIFTLOCK:
When your car is parked, the gear selector is locked in the (P)ark position. To release the selector from this position, turn the ignition key to position II (or start the engine), depress the brake pedal, press the button on the front side of the gear selector and move the selector from (P)ark.
If it is necessary to manually override the Shiftlock system, see page 4:9 for instructions.

KEYLOCK:
This means that when you switch off the ignition, the gear selector must be in the (P)ark position before the starting (ignition) key can be removed from the ignition switch.

ANTI-LOCK BRAKE SYSTEM (ABS):
The ABS system in your car performs a self-diagnostic test when the vehicle is started and at 4 mph (6km/h). The driver may detect one pulsation of the brake pedal and a sound will be audible from the ABS control module. This is normal.

The pages in this section provide detailed descriptions of the vehicle's instruments and controls.
Note that vehicles may be equipped differently, depending on special legal requirements.

Some of the items below are available on certain models only.

1:11	Air vent	2:9	Hood-release handle
1:6	Headlights, parking lights	1:6	Turn signals, high/low beams,
1:8	Front/rear fog lamps	1:10	cruise control
1:8	Central lock switch	1:8	Adjustable steering wheel
1:1-1:5	Instruments	3:4	SRS (air bag)/Horn
-	Space for additional equipment	1:7	Starting (ignition) switch/steering wheel lock
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1:9	Hazard warning flashers	1:7	headlight wiper/washer (certain models)
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1:11	Air vents	1:18	Cigarette lighter
1:11-1:15	Heating and ventilation	4:7	Transmission mode selector buttons
3:4, 3:6	SRS (air bag), passenger's side	4:6	Gear selector
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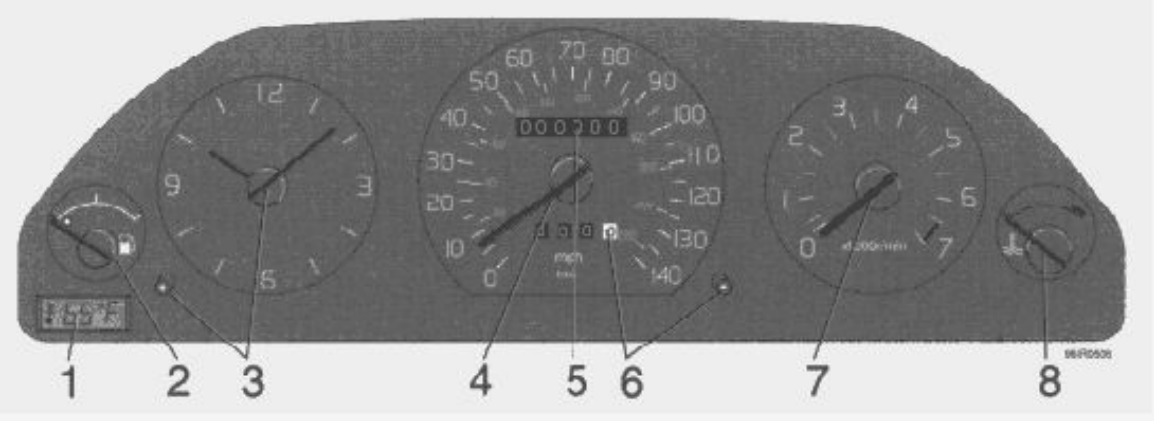
1:17	Controls for electrically operated windows	4:9	Shiftlock override button
2:5	and side-view mirrors	1:18	Parking brake
1:8	Instrument panel illumination	1:16	Electrically-heated front seats (certain models)

pg. 1:2 Instruments



1 Ambient temperature indicator (certain models)

Indicates the temperature slightly above the surface of the road. An amber warning lamp lights up when the temperature is in the range of 23-36° F (-5 - + 2° C). At low speeds or when the car is not moving, the temperature readings may be slightly higher than the actual ambient temperature due to heat generated by the engine.

2 Fuel gauge

The total fuel tank capacity is approx. 21.1 US gals (80 liters). The "usable" capacity is 20.3 US gallons (77 liters). When the warning light comes on, there are approximately 1.6 US gals. (6 liters) of fuel remaining in the tank. See "Refueling" for further information.

3 Quartz crystal clock/clock set button

Press the button and turn to set the clock.

4 Speedometer

5 Odometer

6 Trip odometer/reset button

Used for measuring shorter distances. The last digit indicates 1/10 mile/kilometer. A black number on a white background = original speedometer. A red number on a white background = replacement speedometer.

7 Tachometer

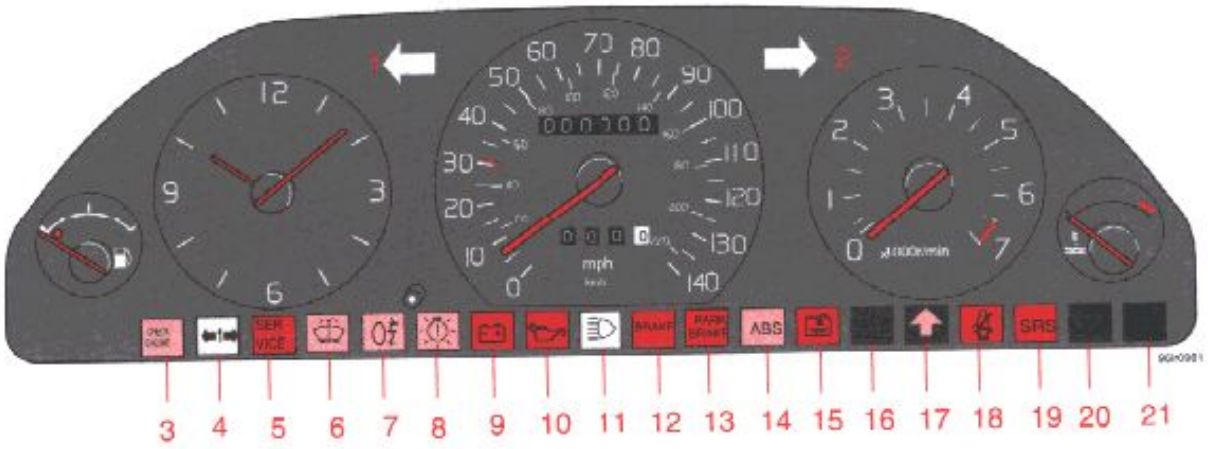
Reads thousands of engine rpm. Engine should not be operated in red range.

8 Temperature gauge

The pointer should be approximately midway on the gauge face when driving. If the pointer approaches the red range repeatedly, check coolant level. Do not drive the car with the pointer in the red range. See "Coolant" section.

Warning! Allow engine to cool before adding coolant.

pg. 1:3 Indicator and warning lights



1 Turn signal, left
2 Turn signal , right
3 Malfunction indicator lamp
4 Direction indicator, trailer
5 Service reminder indicator
6 Low washer fluid level
7 Rear fog lamp
8 Bulb failure
9 Generator not charging
10 Low engine oil pressure
11 High beams
12 Brake failure
13 Parking brake applied
14 ABS-system
15 Low coolant level
16 (Not in use)
17 "Winter" mode engaged/transmission fault
18 Fasten seat belts
19 SRS
20 (Not in use)
21 (Not in use)

pg. 1:4 Warning lights

The warning lights described on pages 1:4 and 1:5 should never stay on when driving

When the ignition key is turned on, and before the engine starts, all of the warning lights should be on to test the function of the bulbs. Should a light not go off after the engine has started, the system indicated should be inspected. However, the parking brake reminder light will not go off until the parking brake is fully released.

Generator warning light
If the light comes on while the engine is running, check the tension of the generator drive belt as soon as possible.

Malfunction indicator lamp
If the lamp comes on (or stays on after the vehicle has started), the engine diagnostic system has detected a possible fault in the emission control system. Although driveability may not be affected, see an authorized Volvo retailer as soon as possible for inspection.

Oil pressure warning light
If the light comes on while driving, the oil pressure is too low. Stop the car and then stop the engine immediately and check the engine oil level. See the section titled "Engine oil". If the light stays on after restart, have the car towed to the nearest authorized Volvo retailer. After hard driving, the light may come on occasionally when the engine is idling. This is normal, provided it goes off when the engine speed is increased.

Parking brake reminder light
This light will be on when the parking brake (hand brake) is applied. The parking brake lever is situated between the front seats.
Canadian models are equipped with this warning light:

Brake fluid warning light
If the light comes on while driving or braking, this indicates that the brake fluid level is too low.
Stop immediately, open the hood and check the brake fluid level in the reservoir (see section "Engine compartment" for reservoir position)!
Canadian models are equipped with this warning light:

WARNING! If the level is below the MIN mark in either section of the reservoir: DO NOT DRIVE. Tow the car to a Volvo retailer and have the brake system checked and any leakage repaired.

pg. 1:5 Warning lights

Anti-lock Brake System (ABS)
If the warning lamp lights up there is a malfunction of the ABS system (the standard braking system will however function). The vehicle should be driven to a Volvo retailer for inspection.
See page 4:15 for additional information.
Canadian models are equipped with this warning light:

Mode "W" engaged
The lamp will light up when the Winter/Wet mode is engaged.
If the warning lamp begins to flash , this means that there is a fault in the automatic gearbox.
Contact your Volvo retailer.

Supplemental Restraint System (SRS)
If the light comes on (or stays on after the vehicle has started), the SRS diagnostic system has detected a fault. Drive to an authorized Volvo retailer for an inspection of the system. See the SRS section for more information.

Service reminder indicator
This light will come on at 10,000 mile (16,000 km) intervals. It is a reminder to the driver that the 10,000 mile (16,000 km) service interval has been exceeded. The light will stay on 2 minutes after the start until reset by the servicing retailer.

Coolant level sensor
If the light comes on while driving, the coolant level is low. The coolant level in the expansion tank should be checked immediately and topped off if necessary. The cooling system should be inspected by an authorized Volvo retailer.

Turn signal indicators-trailer (certain models)
When towing a trailer, this light will flash simultaneously with the turn signals on the trailer. If the light does not flash when signaling, neither the trailer's turn signals nor the car's turn signals are functioning.

Bulb failure warning light
The light will come on if any of the following bulbs are defective:
one of the low beam headlights
one of the tail lights
one of the brake lights when the brake pedal is depressed.
Check the fuse and bulb.
See sections titled "Replacing bulbs" and "Fuses".

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pg. 1:6 Lighting, Turn signals

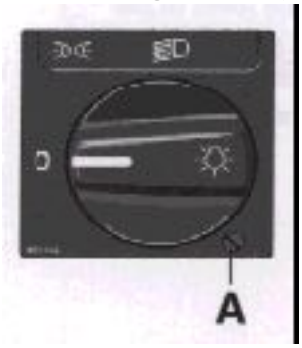
Headlights and parking lights

0 All lights off *
Parking lights on **
Headlights and parking lights are on if starting (ignition) switch is in position I or II.

If the headlight switch is in position all lights will go out when starting switch is switched off.
With the headlight switch in position the parking lights will stay on (headlights off) with the daytime running light switch (A) in position .

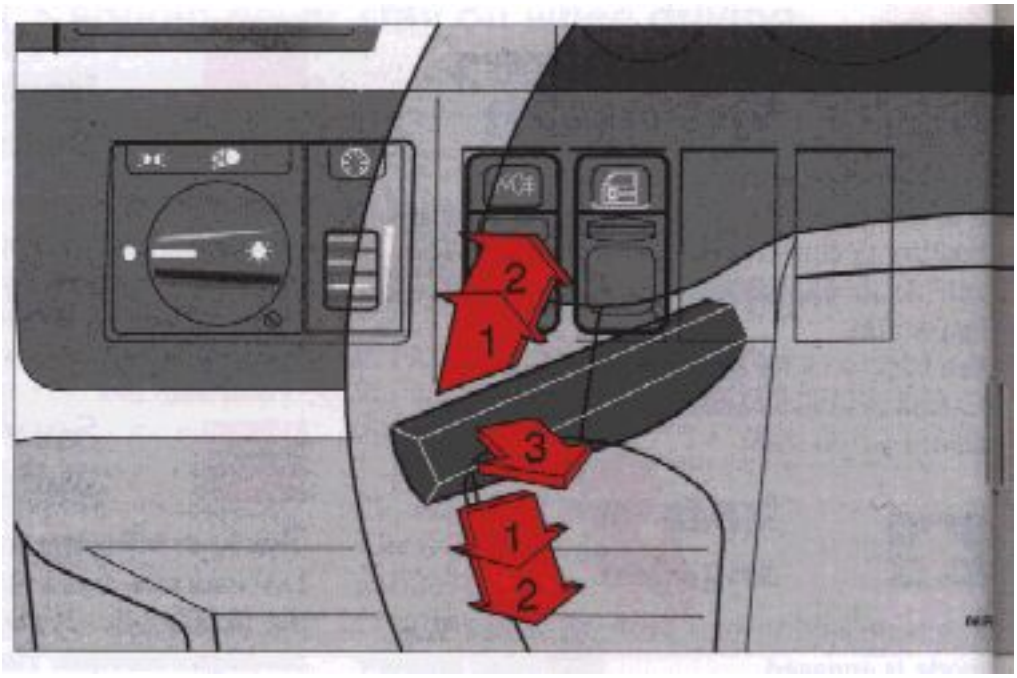
The high beams can only be switched on if the headlight switch is in position .
Switch from high to low beams, and vice versa, by moving the turn signal switch lever on the left side of the steering column towards the steering wheel.
* Models equipped with daytime running lights: The low beams, tail lights, parking lights and license plate lights will come on automatically when the ignition is switched on.

Automatic daytime running lights
NOTE: The daytime running light function may only be disabled (turned off) in the U.S. - Canadian law mandates the use of daytime running lights.
Screw A in the illustration (available on U.S. models only) is used to control the automatic daytime running lights when the headlight switch is in position 0. To adjust, press in the screw with a small screwdriver and turn to one of the following positions:
Automatic daytime running lights
Automatic daytime running lights
** The daytime running lights will also function when the headlight switch is in position and switch A is in this position.
All lights off (daytime running light function disabled)

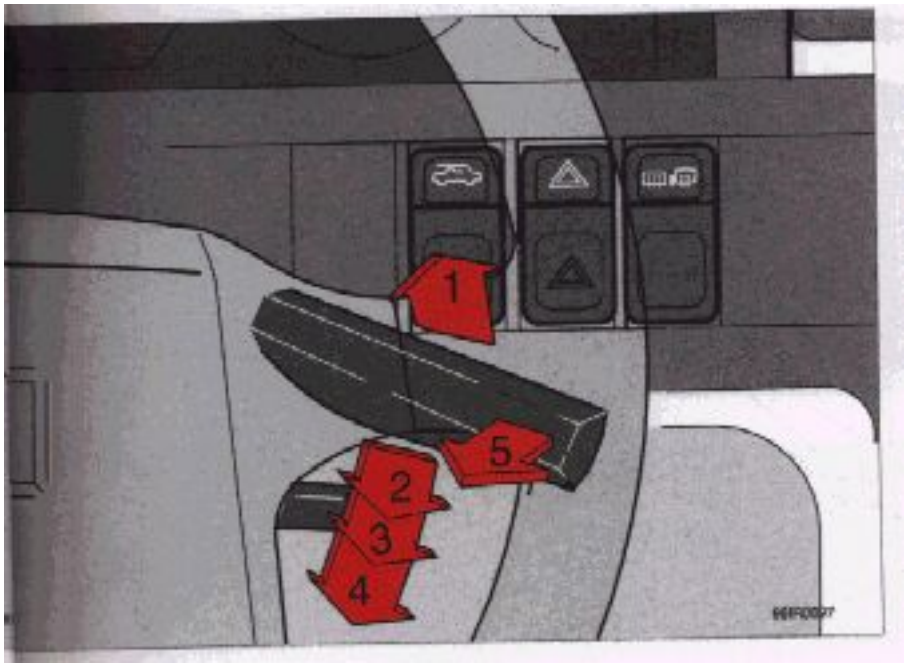


Turn signals

1 Lane change position : In maneuvers such as lane changing, the driver can flash the turn signals by moving the turn signal lever to the first stop and holding it there. The lever will return to the neutral position when released.
2 Signal lever engaged for normal turns
3 High beam/low beam switch (headlights on)
Move the lever towards the steering wheel and release it.
Headlight flasher (headlights off)
Move the lever towards the steering wheel.
The headlight high beam will be on until the lever is released.
NOTE: Defective turn signal bulbs will cause turn signal indicator and remaining signal lights to flash more rapidly than normal.



pg. 1:7 Windshield wipers/washers, Ignition switch



Wipers/washers

1 Intermittent wiper.
With switch in this position, the wipers will sweep approximately every seventh second.
2 "Single sweep" position.
Switch returns automatically when released
3 Wipers, low speed.
4 Wipers, high speed
5 Windshield wiper/washer, headlight wiper/washer (certain models)
The wiper will make 2-3 complete sweeps across the windshield and headlights after lever is released.

Starting (ignition) switch/steering wheel lock

The steering wheel lock might be under tension when the car is parked. Turn the steering wheel slightly to free the ignition key. In order to reduce car theft, make sure the steering wheel lock is engaged before leaving the car.
A chime will sound if the starting key is left in the ignition lock and the front door on the driver's side is opened.

0 Locked position:
remove the key to lock the steering wheel.

WARNING: Never turn the key to position 0 while driving or when the car is being towed.

I Intermediate position:
Certain accessories/radio, etc. on, daytime running lights off.
II Drive position:
key position when engine is running.
III Starting position:
release the key when the engine start. The key returns automatically to the Drive position.

* The gear selector must be in the (P)ark position before the key can be removed from the ignition switch.

pg. 1:8 Fog lights, Instrument illumination, Steering wheel adjustment

A - Front and rear foglights

The switch has two settings:
1 Front foglights ON.

2 Front and rear foglights ON.
When both front and rear foglights are turned on both indicators will light.
The rear foglight is considerably brighter than the normal tail light and should be used only when the atmospheric conditions, such as fog, rain, snow, smoke or dust reduce the daytime or nighttime visibility of other vehicles to less than 500 ft (150 meters).
The lowbeam headlights must be switched on. Note that local regulations governing the use of these lights may vary.

B - Instrument illumination

To increase the brightness, rotate the switch upward.
To decrease the brightness, rotate the switch downward.

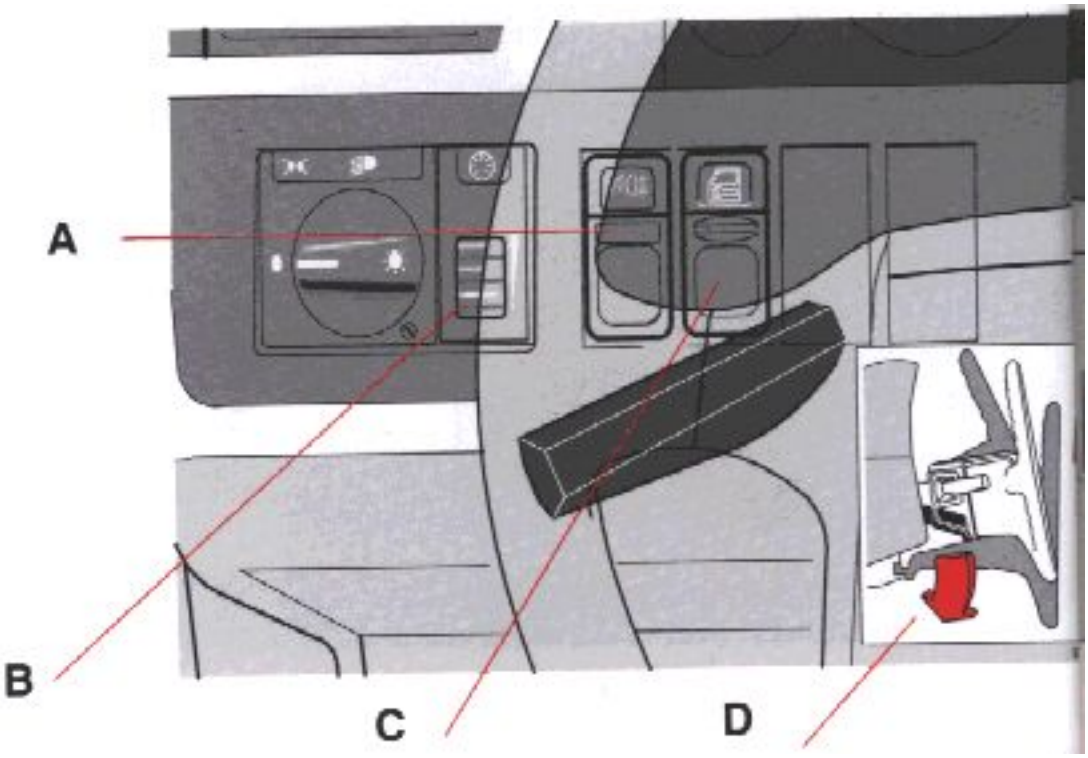
C - Central lock switch

Press the switch to lock/unlock the doors and trunk/tailgate.
Lock: press the lower section of the switch
Unlock: press the upper section of the switch.

D - Steering wheel adjustment

The steering wheel can be adjusted to 3 different positions.
Move the control on the left side of the steering column downward and hold it in place. Adjust the steering wheel to the position desired. Release the control and check that the steering wheel is locked in position.

WARNING! Do not adjust the steering wheel while driving.



pg. 1:9 Sun roof, Hazard warning flasher, Tailgate wiper/washer, heated rear window

Tailgate window wiper/washer (wagon)

The tailgate window wiper/washer is operated by a switch at the end of the wiper level.
1. The wiper operates continuously.
2. Intermittent position: the wiper strokes approximately every 10 seconds.
3. Tailgate washer (note that the wiper also operates when this button is depressed): after the button is released the wiper strokes 2-3 additional times before stopping.
The electrical circuit is protected by fuse 19, located in the central electrical unit. See the section entitled "Fuses".

Electrically operated sun roof (certain models)

The sun roof can be operated in two ways; as a conventional sliding roof; or the rear edge can be raised to provide increased ventilation. On models equipped with the power glass sun roof, a manually operated sun shade is also provided.
See page 2:19 for operating instructions.
NOTE: In case of sun roof malfunction, see page 2:19.

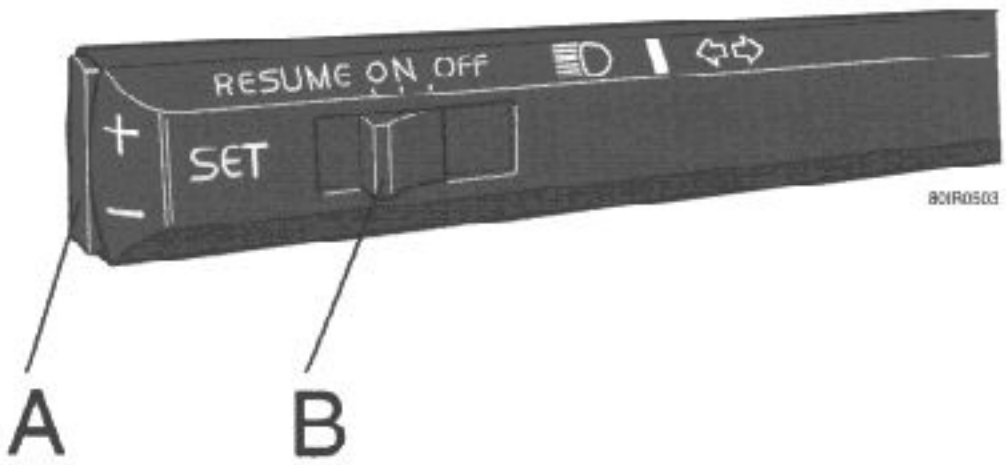
Heated rear window, heated side-door mirrors (certain models)

Depress the switch to start heating of rear window and side mirrors. Both orange control lights in the switch will illuminate. A timer switches off the side mirror heating after approx. 6 minutes and the rear window demister after 12 minutes. The control lights go out correspondingly.

Hazard warning flasher

The four-way flasher should be used to indicate that the vehicle has become a traffic hazard.
NOTE: Regulations regarding the use if the hazard warning flasher may vary from state to state.

pg. 1:10 Cruise control



Cruise control

The cruise control switches are located on the turn signal switch lever.
To engage and set desired speed:
1. Set switch (B) to ON.
2. Accelerate to desired cruise speed.
NOTE: The cruise control cannot be engaged at speeds below 22 mph (35 km).
3. Press the + or - area of the SET button (A) to set the desired speed.

Braking
This will automatically disengage the cruise control. Previously selected cruise control speed is retained

in the memory and by momentarily setting the switch to RESUME position, that speed will be re-engaged.

If the cruise control is already engaged, the cruising speed can be increased or decreased by depressing the SET button (A) towards either + or -. One short press on the button corresponds to a speed change of approx. 1 mph (1.6 km/h). When the button is released, the vehicle will maintain the current speed.

If actual speed falls below 70% of set speed or if the wheels spin or lock, the cruise control will disengage automatically.

NOTE:
When driving in hilly terrain, the gearbox may tend to jump between different gears. This can be avoided by selecting gear selector position 3 (intermediate position).
Normally, the (E)conomy mode should be used when the cruise control is engaged.

Acceleration
Momentary acceleration, such as for passing, does not interrupt cruise control operation. The previously selected speed will be maintained without having to set the switch to RESUME. To disengage the cruise control system : set switch (B) to OFF, depress the brake pedal or move the gear selector to position N. Switching off the starting (ignition) switch will automatically disengage the cruise control system.

WARNING! The cruise control should not be used in heavy traffic or when driving on wet or slippery roads. Do not use or resume cruise control in reverse gear. When the ignition is switched off, any information stored in the cruise control memory will be erased.

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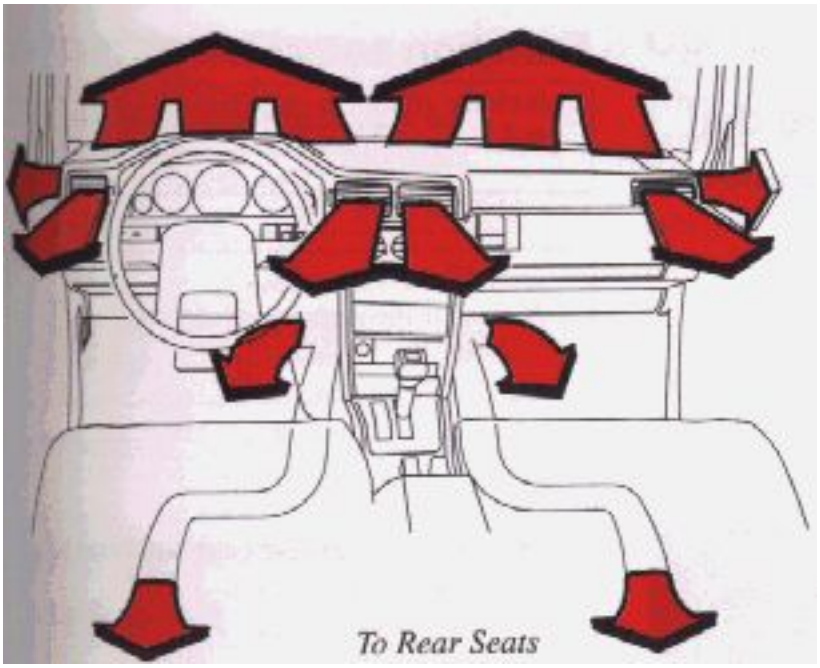
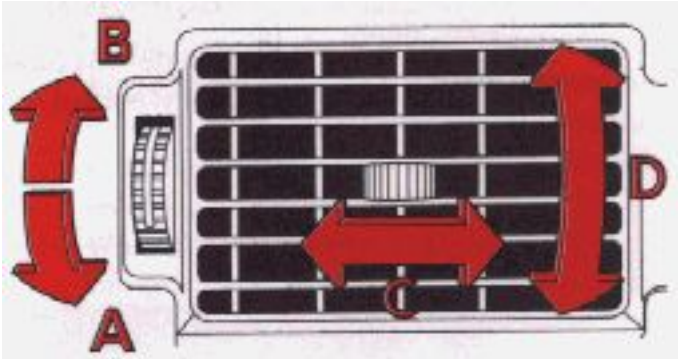
pg. 1:11 Heating, ventilation and air conditioning



ECC - Electronic Climate Control

This is an automatic system that also permits manual operation. The in-car temperature is automatically monitored by two sensors located in the passenger compartment.
One sensor is located on the top of the dashboard where it can sense sunlight. The second sensor is located on the courtesy light where it can sense the temperature in the center of the car. The following pages describe how ECC works and how it can be used most effectively.



Air vents (dash)
A Open
B Closed
C Directing air flow horizontally

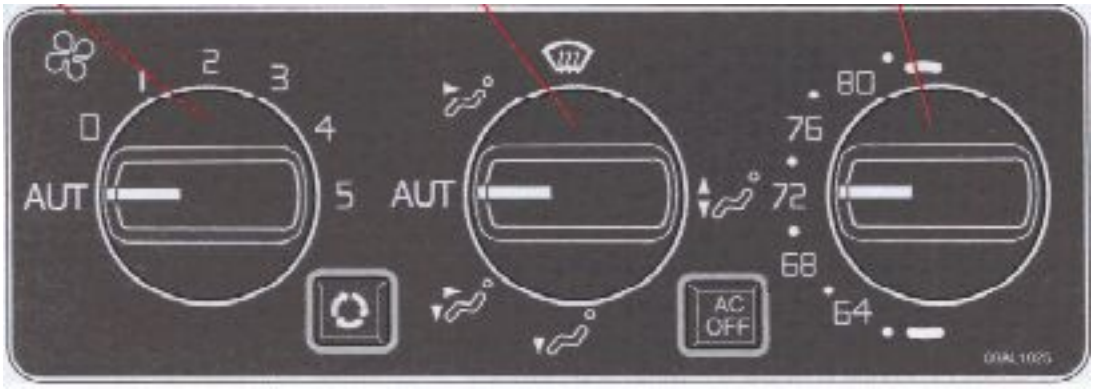
D Directing air flow vertically

pg. 1:12 Heating, ventilation and air conditioning

ECC - Electronic Climate Control panel
Blower
0 = off
5 = max speed
aut = blower speed
automatically regulated

Function selector
Set desired function
aut = normal setting

Temperature dial
Set desired temperature



Air in the passenger compartment recirculates with this button depressed. Will not function in defrost setting. Light is on when recirculation is active*

The air conditioning system is OFF when this button is depressed (the light will be on). The light has two functions:

- air conditioning OFF*
- fault in system (see next page)

* When the function selector is in the mode, the air conditioning system is ON and recirculation is OFF, regardless of button position. The light surrounding the "AC OFF" button will be OFF and the light surrounding the recirculation button will be OFF.
NOTE: If your windows begin to fog or mist, check that the recirculation function is not engaged.

Function selector
aut aut=air distribution automatically regulated

Air through panel vents

Defrost. Air to windshield and side windows.

Air to floor, windshield and side windows.

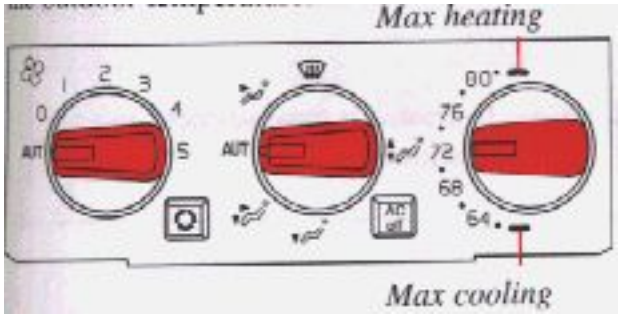
Air through floor vents.

Bi-level. Air through floor and panel vents. Air supplied from panel vents is slightly colder than air released at foot level.

pg. 1:13 Heating, ventilation and air conditioning

Automatic setting

The ECC system will automatically maintain a comfortable in-car temperature regardless of the outdoor temperature.



Select the desired temperature

The blower will run at its maximum speed in either the max cooling or max heating positions.
Water under the vehicle in hot weather can be the result of condensation from the air conditioning system.

Optimum defrosting

Set the function dial to .
The air conditioning light will NOT go on.
When the windows have cleared, set the blower control to position 2.

Operating Tips

When the outside air is contaminated with exhaust gases, smoke etc. (as when driving through a tunnel) or to cool the car quickly, push the recirculation button. In this position, no air is drawn into the passenger compartment from outside. However, do not leave the system in this mode for more than 10-15 minutes, since the air inside the car will become stale and the windows may fog.

NOTE:
- Do not place any objects over the sensor in the passenger side speaker grille as this will cause the ECC system to respond incorrectly to ambient conditions.
- To help maintain stable passenger compartment temperature when driving with the sun roof or windows open, place the blower control in position "0" and adjust the desired temperature manually.
- The air conditioning compressor only engages at temperatures above 41°F (5°C).
- Always keep the air intake grille at the base of the windshield free of snow.

Volvo cares about the environment. The air conditioning system in your car contains a CFC-free refrigerant - R134a. This substance will not deplete the ozone layer. The system contains 2 lbs. (0.9 kg) R134a and uses Sanden SP-20 (type PAG) oil.

ECC system fault indication

If the light in the air conditioning push button begins to flash when the ignition is switched on, a simple fault is indicated. The system will compensate by substituting a standard value stored in the memory. System performance loss will be slight.
If the light continues to flash more than 20 seconds, a more serious fault is indicated. While the system will again attempt to substitute a standard value, some reduction in system performance will become apparent. Contact your authorized Volvo retailer for service.

Difficult weather conditions

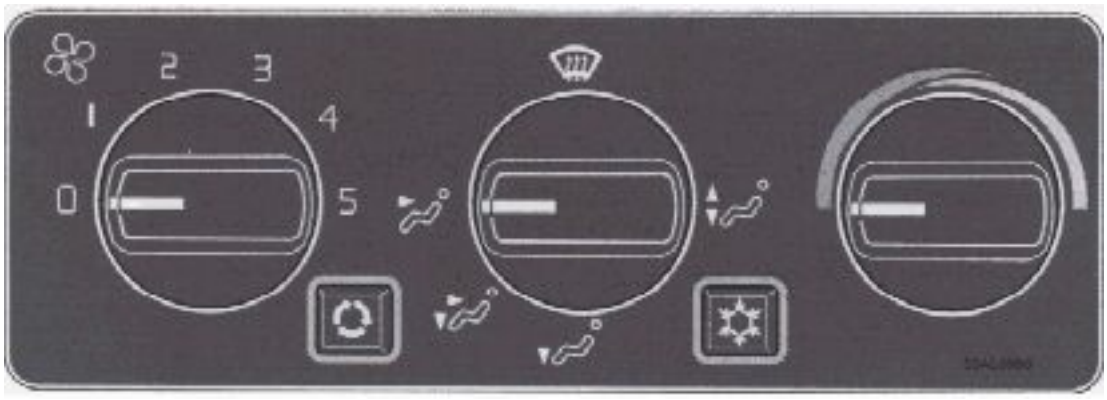
When driving in very humid conditions, heavy rain, sleet, etc., it may be better to use the manual rather than the automatic setting to defrost the windows. Set the mode selector to "Defrost" or "Defrost/floor" and the fan speed to 3 or higher. Also shut the middle air vents.

pg. 1:14 Heating and air conditioning (certain models)

Heating and ventilation with air conditioning
Blower
0 = off
5 = max speed

Function selector
Set desired function

Temperature dial
Set desired temperature



Air in the passenger compartment recirculates with this button depressed (will not function in defrost setting). The symbol lights up (orange light) when the button is depressed and the headlights or parking lights are on.

The air conditioning system is ON when this button is depressed. The symbol lights up (blue light) when the button is depressed and the headlights or parking lights are on *.

* When the selector is in the mode, the air conditioning system is ON regardless of button position.

Function selector

Air through panel vents

Defrost. Air to windshield and side windows.

Air to floor, windshield and side windows.

Air through floor vents

Bi-level. Air through floor and panel vents.

NOTE: If your windows begin to fog or mist, check that the recirculation function is not engaged.

pg. 1:15 Heating and air conditioning (certain models)

Maximum heating:

Close the center panel vents. When the passenger compartment has become sufficiently warm, set the blower control to position 2 and adjust the temperature.

Maximum cooling:

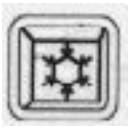
Open the vents. The button should be depressed. Adjust the temperature with the temperature dial.

To demist / Defrost the windows

Set the function dial to position . When the windows have cleared set the blower control to position 2 and the function selector to . Always keep the air intake grille at the base of the windshield free of snow.

Operating tips
The air conditioning system functions only at temperatures above 43°F (6°C).

The air conditioning will only function if the blower is set to position 1 or higher.

 Choose this position if the outside air is contaminated with exhaust gases, smoke, etc or to heat/cool the car quickly. In this position, very little air is drawn into the passenger compartment from the outside. Do not leave the system in this mode for more than 10-15 minutes since the air inside the car will become stale. The temperature can be controlled with the temperature dial.

The air conditioning system will function best if it is used regularly.
Water under the vehicle in hot weather can be the result of condensation from the air conditioning system.
Volvo cares about the environment. The air conditioning system in your car contains a CFC-free refrigerant - R134a. This substance will not deplete the ozone layer. The system contains 2 lbs. (0.9 kg) R134a and uses Sanden SP-20 (type PAG) oil.

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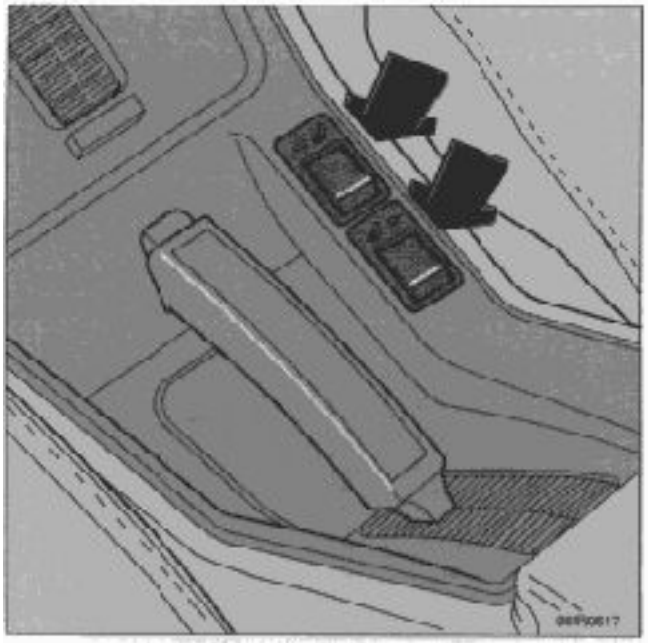
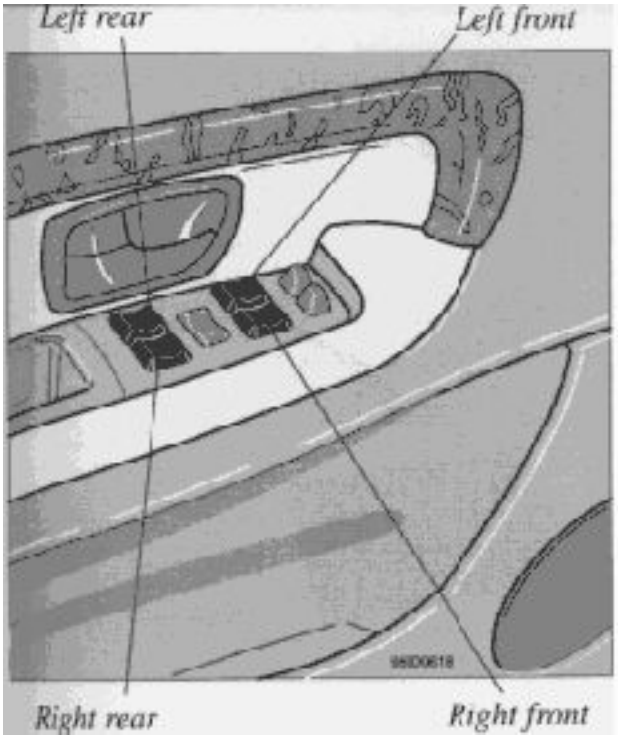
pg. 1:16 Heated front seats



Heated front seats (certain models)

The heated front seats can be switched on and off as required. When switched on, the system senses the ambient temperature and regulates the level of heat applied. When the optimum temperature is reached, the heating is switched off automatically.
While driving, the passenger seat heating should be switched off when the seat is not occupied.

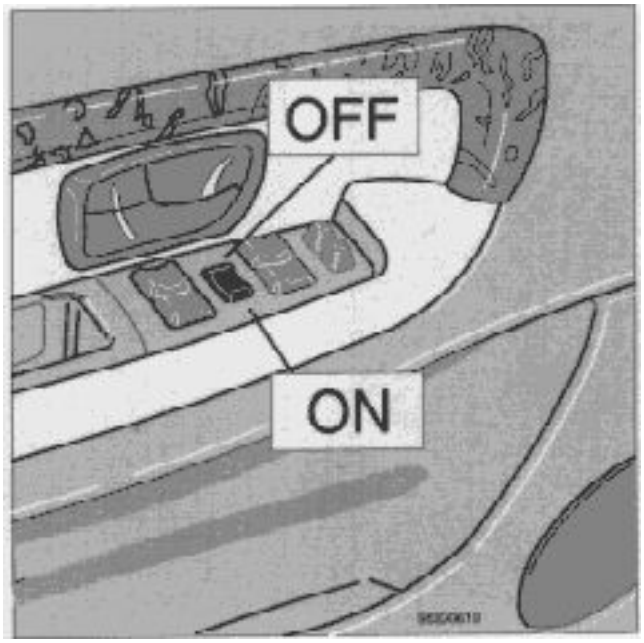
pg. 1:17 Electrically operated windows



Electrically-operated windows

The electrically operated windows are controlled by switches from the driver's armrest as shown in the above illustration.
The starting (ignition) switches must be ON (position II) for the electrically operated windows to function. The window is lowered if the rear part of the switch is pressed and raised if the front part of the switch is pressed.
NOTE: Driver's window only (AUTO): The window can be opened completely by pressing the rear part of the switch lightly and releasing it immediately. The window can be stopped by pressing the button again. If the button is held down, the window will be lowered until the button is released.

WARNING! Remove the starting (ignition) key when children are left unattended in the vehicle.
Make sure that children's hands are clear before raising the windows.

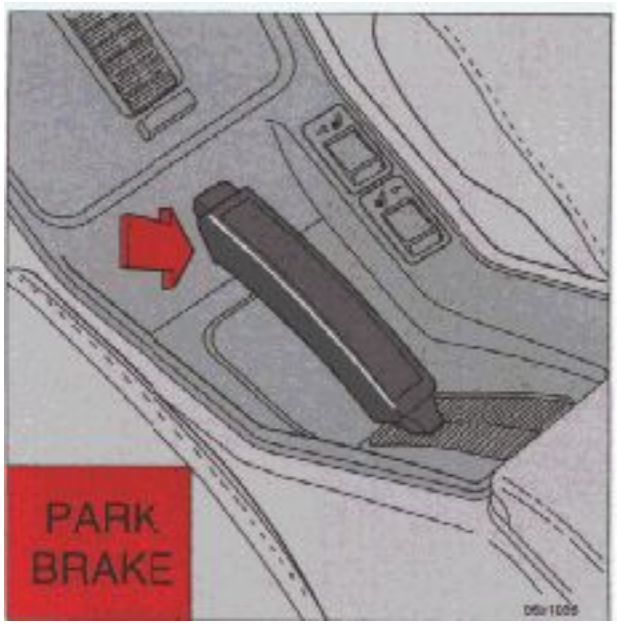


Cut-out switch for rear-door windows

If the car is equipped with rear door power windows, this function can be disabled by a switch located on the driver's armrest. This switch is positioned 90° in relation to the other switches.
ON The rear door windows can be raised or lowered with the respective door switch as well as the switch on the driver's door.
OFF The rear door windows cannot be raised or lowered with the respective door switch but instead only with the corresponding switch on the driver's door.

NOTE: The power window motors have an overload protecting circuit breaker which is activated when an object blocks a window. Should this occur, remove the object and wait 20 seconds for the circuit breaker to reset. The power windows should then function.

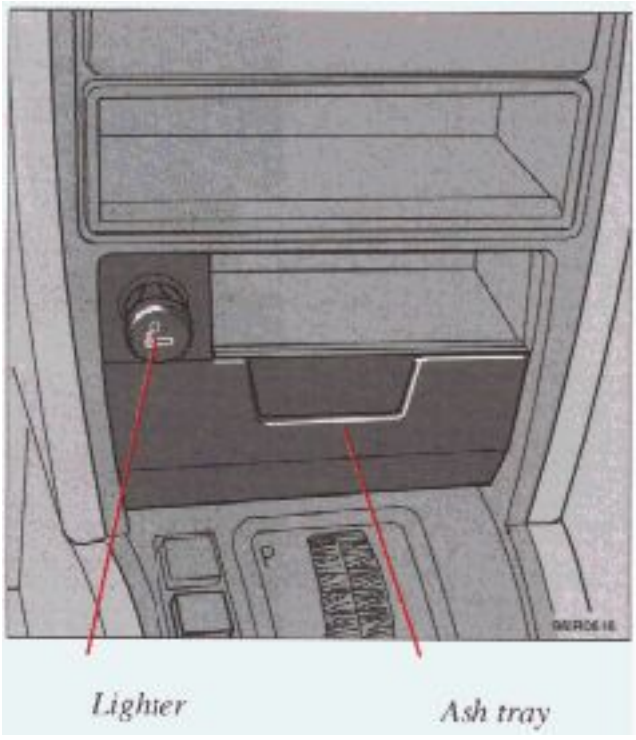
pg. 1:18 Parking brake, Cigarette lighter, Ash trays



Parking brake (hand brake)

The lever is situated between the front seats. The brake is applied to the rear wheels.

WARNING!
Always use the parking brake (hand brake) when parking. On hills, also turn the front wheels toward the curb.

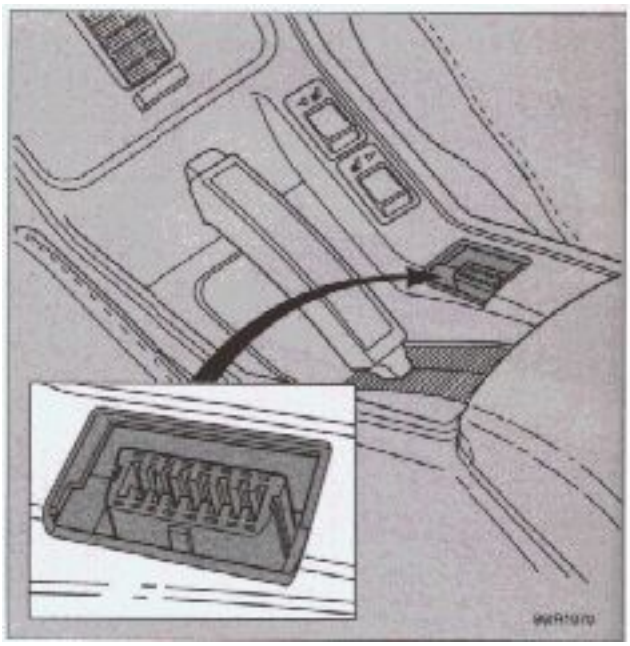


Cigarette lighter/accessory outlet

To operate, depress the knob fully. When the knob automatically releases, the cigarette lighter is ready for use.
The starting (ignition) switch must be switched on (to position I or II) for the cigarette lighter to function.

Ash trays

To remove the ash trays depress the center spring and remove.



"OBD II"

A connector for on-board diagnostics ("OBD II") is located to the right of the parking brake. This connector is intended for use by authorized service technicians only.

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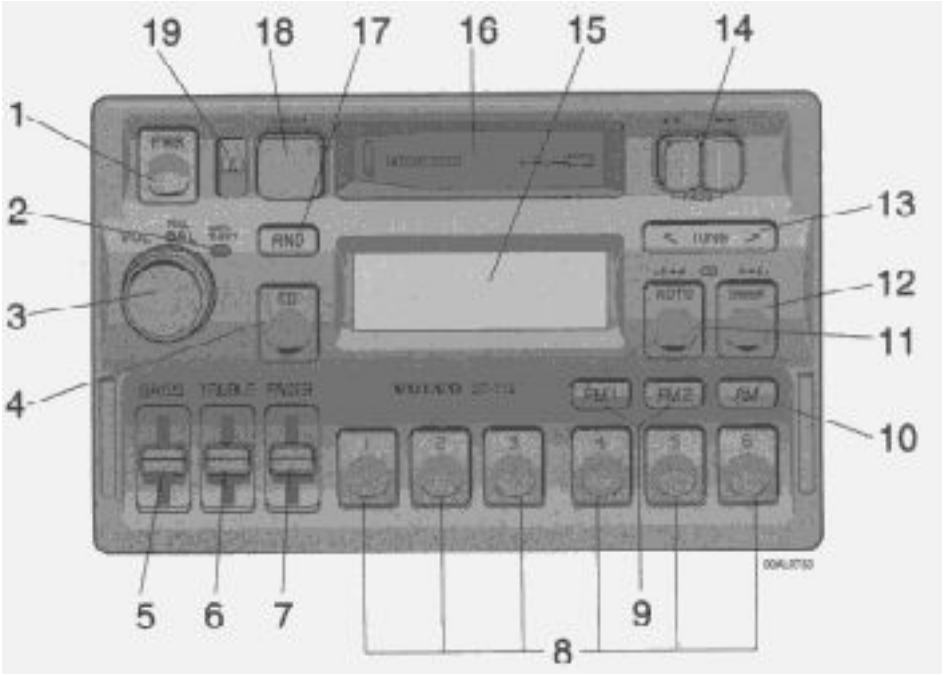
pg. 1:19 Audio system SC-710 (certain models), general description

The following pages describe the use of your SC-710 Cassette Radio and CD remote control



1. On/off (push)
2. Antitheft LED
3.

- Volume (turn)
- Balance (pull and turn)

4. CD mode selector
5. Bass control
6. Treble control
7. Fader control
8.

- Preset buttons
- CD-Disc No. selector

9. Waveband selectors (FM)
10. Waveband selectors (AM)
11.

- Auto seek memory
- CD - Previous track DOWN

12.

- Seek tuning

- CD - Next track UP

13.

- Manual tuning up/down
- CD - Music search DOWN
- CD - Music search UP

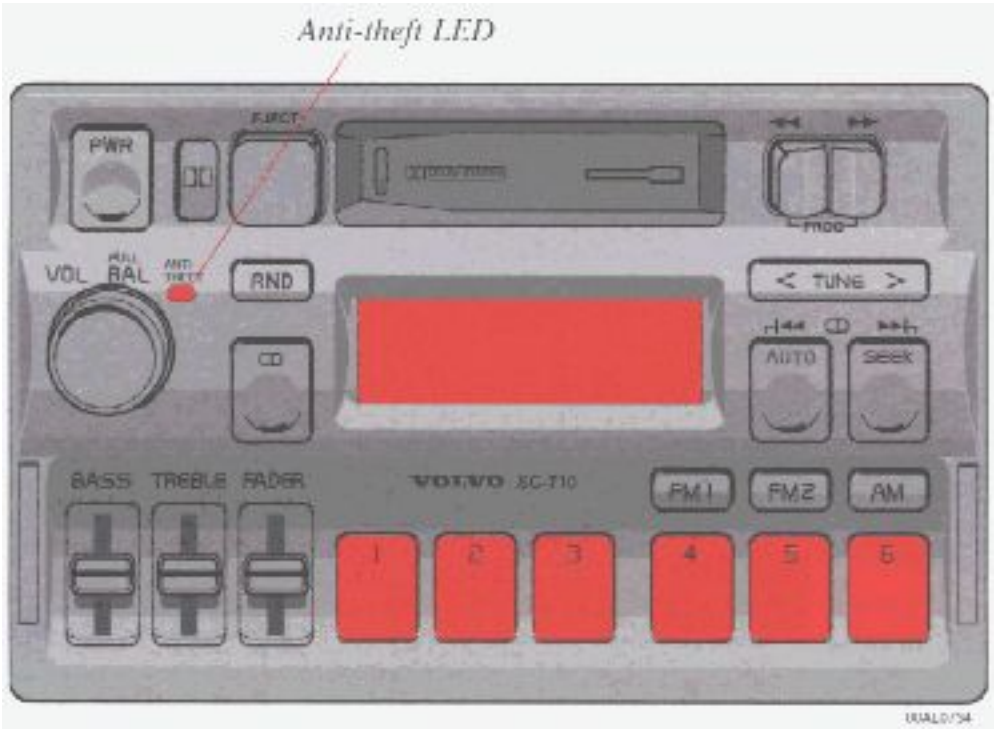
14.

- Rewind/Forward
- Tape direction selector PROG

15. Display
16. Cassette slot
17. CD-Random play
18. Cassette Eject
19. Dolby B button

CD = Applicable only when in CD mode and connected to a CD changer

pg. 1:20 Anti-theft code



Anti-theft code

The radio features anti-theft circuitry. If the set is removed from the vehicle or if the battery power is disconnected, a special code must be entered to enable operation of the set. Refer to the radio code card supplied with your vehicle or ask your retailer for the correct code .
When the car is parked with the ignition key removed, the anti-theft LED will flash

To enter the code

After installation or when the set has been disconnected from power, the set displays "COdE" when it is switched on.
Enter the 4-digit code using the preset buttons. If the correct code is entered the set is ready to use.
If you enter an incorrect code you must enter the correct code again from the beginning.

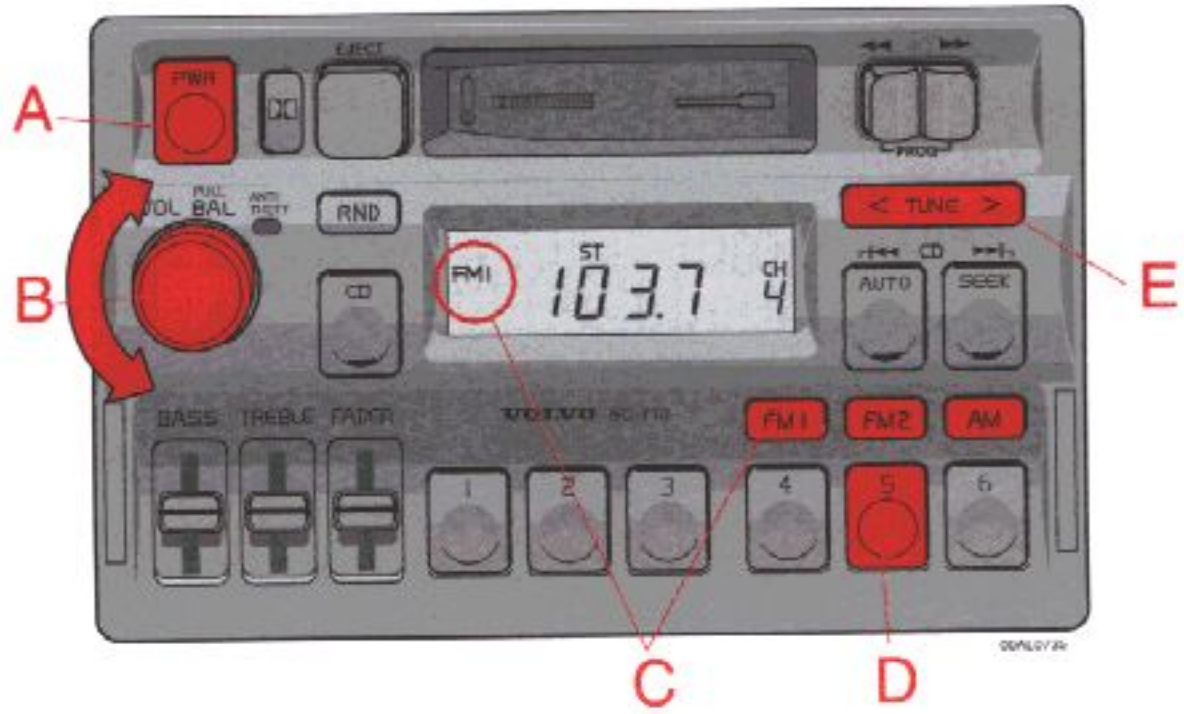
Incorrect code

If an incorrect code has been entered "EEEE" is displayed. Enter the correct code.
After three unsuccessful coding attempts the set will lock and remain locked for two hours.
"OFF" is displayed.

During this waiting period:
- the battery must be connected
- the ignition key must be turned to position I
- the unit must be turned on

Make sure the headlights are turned off to help prevent battery drain.
Enter the code again once this time has elapsed.

pg. 1:21 Radio SC-710



A - On/off switch

Push the button to switch on the radio.

B - Volume control

Turn the button clockwise to increase the volume. The volume control is electronic and has no end stop.

C - Waveband selector

The desired waveband is set by pressing one of the waveband selector buttons. The frequency and waveband is shown on the display.
NOTE: There are two FM wavebands and two AM wavebands. This makes it possible to store 2 x 6 FM stations and 2 x 6 AM stations in memory.

D - Setting frequency selection

The radio can be used in most parts of the world by changing the frequency selection intervals as follows:
Depress and hold preset button 5 and turn the radio ON. "USA" will flash on the display. Each time button 5 is pressed, the frequency selection will change from "USA" to "AUS", etc. When the correct country name is displayed, wait 5 seconds and the radio will be ready for use.
When "USA" is chosen, the FM band will search for stations in 200 kHz intervals and AM will search in 10 kHz intervals.

E - Manual tuning

Press the left side of the tune button to tune to lower frequencies and the right side to tune to higher frequencies. The tuned frequency is displayed.

ST will be displayed to indicate stereo FM reception.

pg. 1:22 Radio SC-710

A - Seek tuning

Press the SEEK button to seek for higher frequencies. The radio seeks the next audible station and stops there. If you wish to continue the seek tuning, press the SEEK button again.

B - Preset programming

1. Tune to the desired frequency.
2. Depress and hold a preset button. The audio will cut out. Keep the button depressed until the audio comes on again (approx. 2 seconds).
3. The frequency is now stored on this preset button.

C - Preset buttons

To select a pre-programmed radio frequency, depress the preset button. The set frequency will be displayed.

pg. 1:23 Radio SC-710

A - Automatic programming (Auto seek)

This function automatically seeks and stores up to 8 strong AM or FM stations. This is especially useful when travelling in areas where radio stations are unfamiliar.
1. Depress and hold the "auto-seek" button for at least 1 second. Auto is indicated in the display A number of strong stations (max. 8) on the chosen waveband are now automatically stored in the auto seek memory. If there are no audible stations, "---" is displayed.
2. Press the "AUTO" button (for less than 1 second) to obtain another autostored station. A new autostored station will be selected each time the button is pressed momentarily.

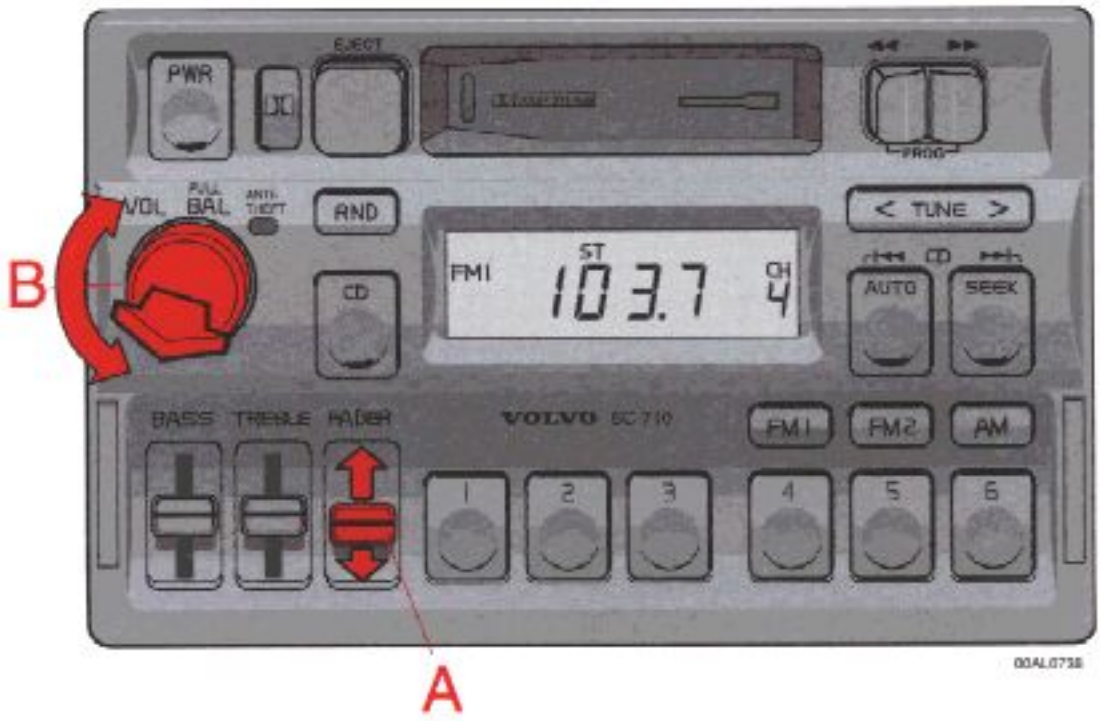
B - Bass control

Adjust the bass by sliding the control up or down (up to increase, down to decrease). A "detent" indicates "equalized" bass.

C - Treble control

Adjust the treble by sliding the control up or down (up to increase, down to decrease). A "detent" indicates "equalized" treble.

pg. 1:24 Radio SC-710



A - Fader control

Adjust front/rear speaker balance by sliding the control up or down.
Up to direct more sound to the front speakers, down to direct more sound to the rear speakers.
The "detent" indicates "equalized" front/rear balance position.

B - Balance control

Pull out the "volume" knob and adjust the left/right balance by turning the knob counter-clockwise or clockwise.
The "detent" indicates "equalized" left/right balance position.

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pg. 1:25 Cassette deck

A - Cassette slot

The cassette is inserted with the open side to the right (side 1 or A of the cassette upwards). When the cassette is inserted, the radio is disengaged and the cassette will start to play automatically. "TAPE ▶ " or "TAPE ◀ " is displayed to indicate which side of the tape is being played. When one side of the tape is being played. When one side of the tape has been played the unit will automatically play the other side (auto-reverse). The cassette can be inserted or ejected even when the unit is switched off.

B - Reversing the tape (PROG)

Press the two buttons to play the other side of the tape.
The side of the tape being played will be displayed.

C - Fast winding

The tape is advanced with " ▶▶ " and rewound with " ◀◀ ".
Fast winding can be stopped by pressing the opposite button.

D - Dolby B button

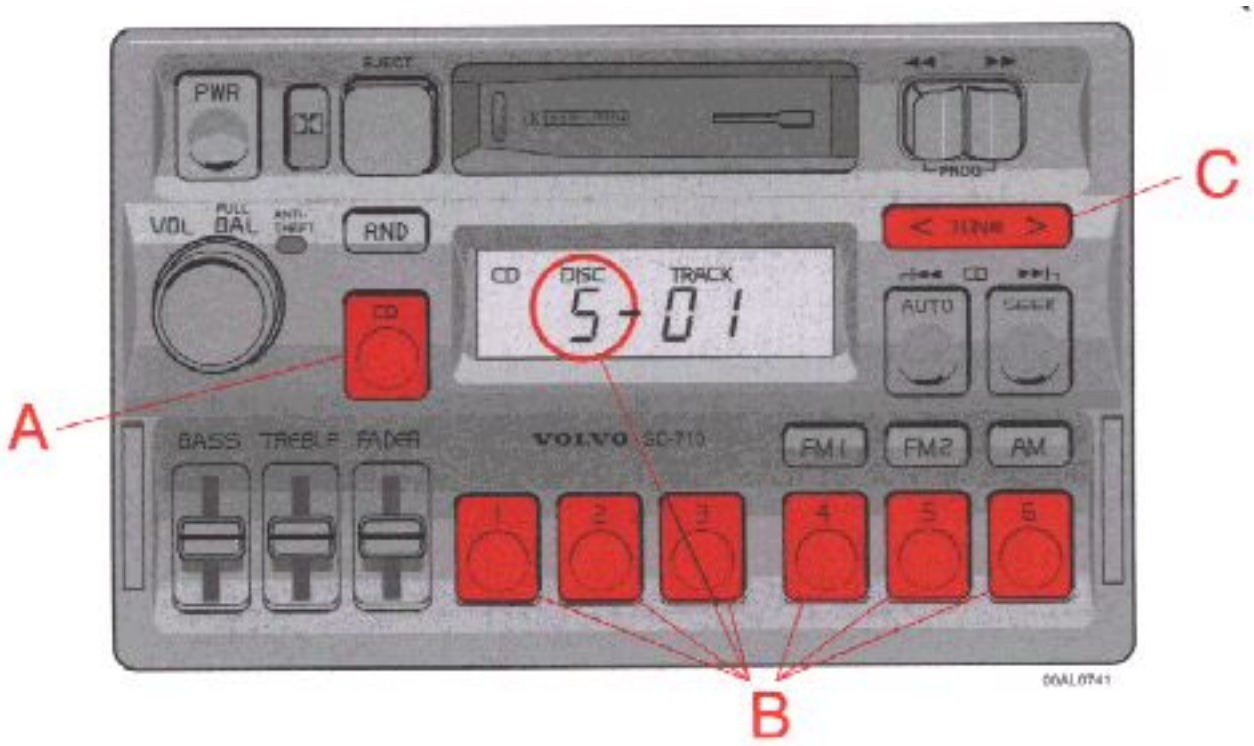
Press this button when you use tapes recorded with the Dolby B noise reduction system. The Dolby Symbol will be indicated in the display.

pg. 1:26 Cassette deck

A - Cassette eject

If the button is pressed the tape will stop and the cassette will be ejected. The radio will be automatically engaged. The radio or CD will engage automatically (depending on which mode was activated before the tape was played).

pg. 1:27 CD - Remote (certain models)



A - CD mode selector

Press "CD" to actuate the CD mode. The disc/track last listened to will continue to play. If the CD-changer cartridge * is empty, "---- will be displayed.
If a selected disc does not exist, the disc number and "5---" will be displayed and the next disc will be automatically selected.

* The functions pertaining to the CD-changer are only applicable if the unit has been connected to the Volvo CD-changer which is sold separately as an accessory, or on certain models, standard on the car.

B - Disc number selector

Depress one of the preset buttons (1-6) to select the disc number desired. The selected disc number and track number will be displayed.

C - Music search

Press the TUNE button to search within a track. While the button is depressed the playing time for this

track will be displayed.

pg. 1:28 CD - Remote (certain models)

A - Changing the selected track number

Press CD ⏭ (SEEK) button to select the next track.
Press the CD ⏮ (AUTO) button to select the previous track.
The chosen disc number and track number will be displayed.

B - Playing-time display

When the CD button is pressed the playing time for the current track is displayed for 5 seconds.

pg. 1:29 CD - Remote (certain models)

A - Random choice

Press "RND" to actuate the random mode. From a disc chosen at random, 4 tracks will be played (also chosen at random).
A new disc will then be played in the same way. "RND" will be displayed when this function is engaged.

B - To re-enter the Radio mode

To re-enter Radio mode, push one of the waveband selector buttons.

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pg. 1:30 Premium Sound system SC-811 (certain models)

The following pages describe the use of your SC-811 Cassette Radio and CD remote control

1.

- On/off (turn)
- Volume (turn)
- Pause/Mute (push)
- Balance (pull)

2. CD mode selector
3. Bass control
4. Treble control
5. Fader control
6. Waveband selectors (FM)
7. Waveband selectors (AM)
8. Preset buttons, CD-Disc No. selector
9. Auto seek memory (FM)
10. Dolby B button
11.

- Manual tuning
- Seek tuning (push)

12. Tape direction selector REV, CD-Random play
13. Cassette eject

14. Display
15. Cassette slot
16. TP -Next song
CD -Next track UP
17. TP -Fast forward
CD -Music search UP
18. TP -Rewind
CD -Music search DOWN
19. TP -Previous song REPEAT
CD -Previous track DOWN
20. Tape mode selector

TP = Applicable only in tape mode
CD = Applicable only when in CD mode and connected to a CD changer

pg. 1:31 Anti-theft code

Anti-theft code

The radio features anti-theft circuitry. If the set is removed from the vehicle or if the battery power is disconnected, a special code must be entered to enable operation of the set. Refer to the radio code card supplied with your vehicle or ask your retailer for the correct code .
When the car is parked with the ignition key removed, the anti-theft LED will flash

To enter the code

After installation or when the set has been disconnected from power, the set displays "CodE" when it is switched on.
Enter the 4-digit code using the preset buttons. If the correct code is entered, "on" is displayed and the set is ready to use.
If you enter an incorrect code you must enter the correct code again from the beginning.

Incorrect code

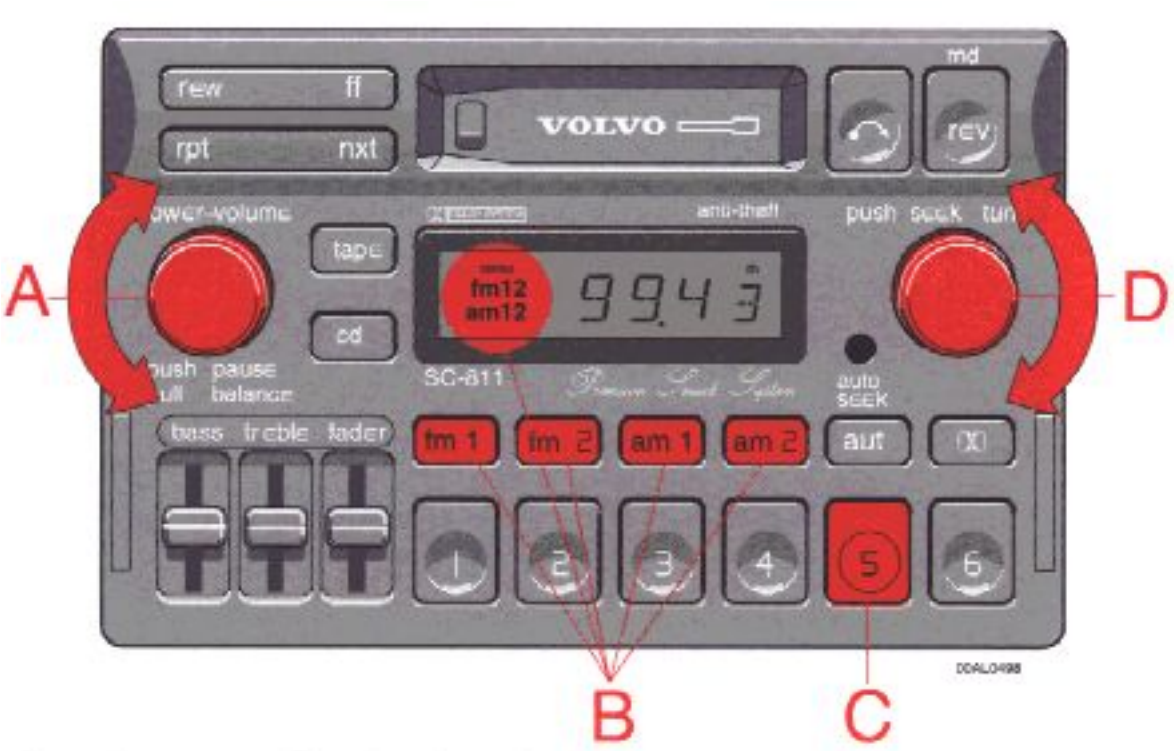
If an incorrect code has been entered "EEEE" is displayed. Enter the correct code.
After three unsuccessful coding attempts the set will lock and remain locked for two hours.
"OFF" is displayed.

During this waiting period:
- the battery must be connected
- the ignition key must be turned to position I

- the unit must be turned on

Make sure the headlights are turned off to help prevent battery drain.
Enter the code again once this time has elapsed.

pg. 1:32 Radio SC-811



A - On/off switch and volume control

Turn the button clockwise to switch on and to increase the volume.

B - Waveband selector

The desired waveband is set by pressing one of the waveband selector buttons. The frequency and waveband is shown on the display.

NOTE: There are two FM wavebands and two AM wavebands. This makes it possible to store 2 x 6 FM stations and 2 x 6 AM stations in memory.

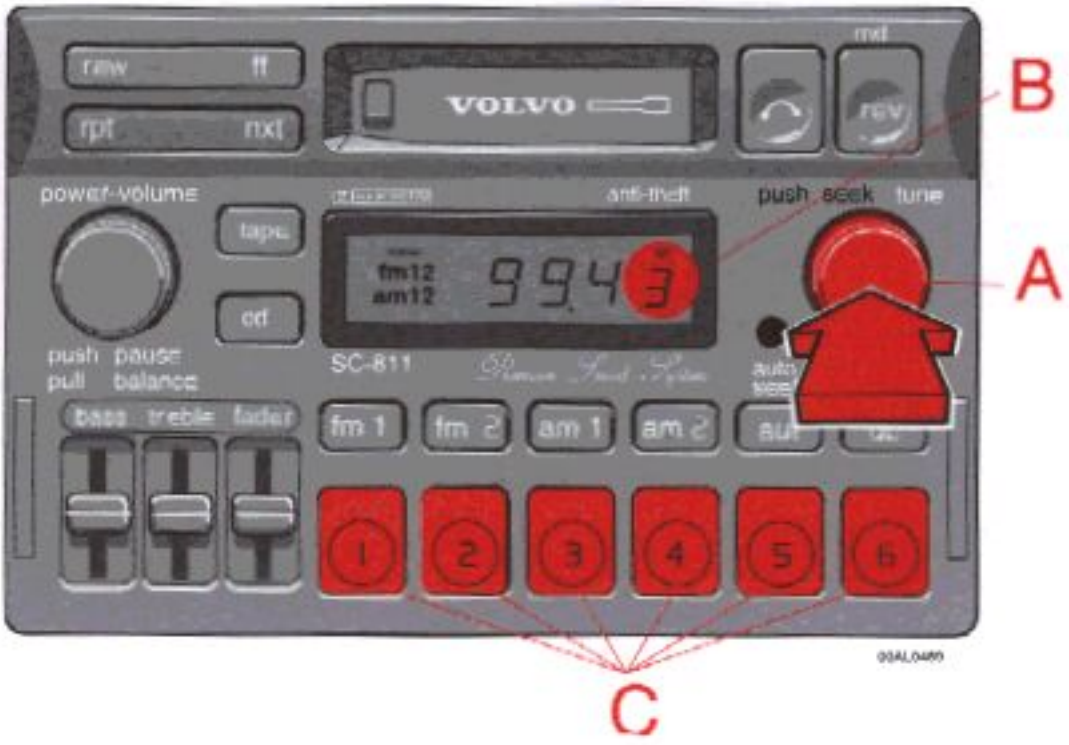
C - Setting frequency selection

The radio can be used in most parts of the world by changing the frequency selection intervals as follows:
Depress and hold preset button 5 and turn the radio ON. "USA" will flash on the display. Each time button 5 is pressed, the frequency selection will change from "USA" to "AUS", etc. When the correct country name is displayed, wait 5 seconds and the radio will be ready for use.

D - Manual tuning

Turn the knob counter-clockwise to tune to lower frequencies and clockwise to tune to higher frequencies. The tuned frequency is displayed.

pg. 1:33 Radio SC-811



A - Seek tuning

Push the tuning knob to seek for higher frequencies. The radio seeks the next audible station and stops

there. If you wish to continue the seek tuning, press the tuning knob again.

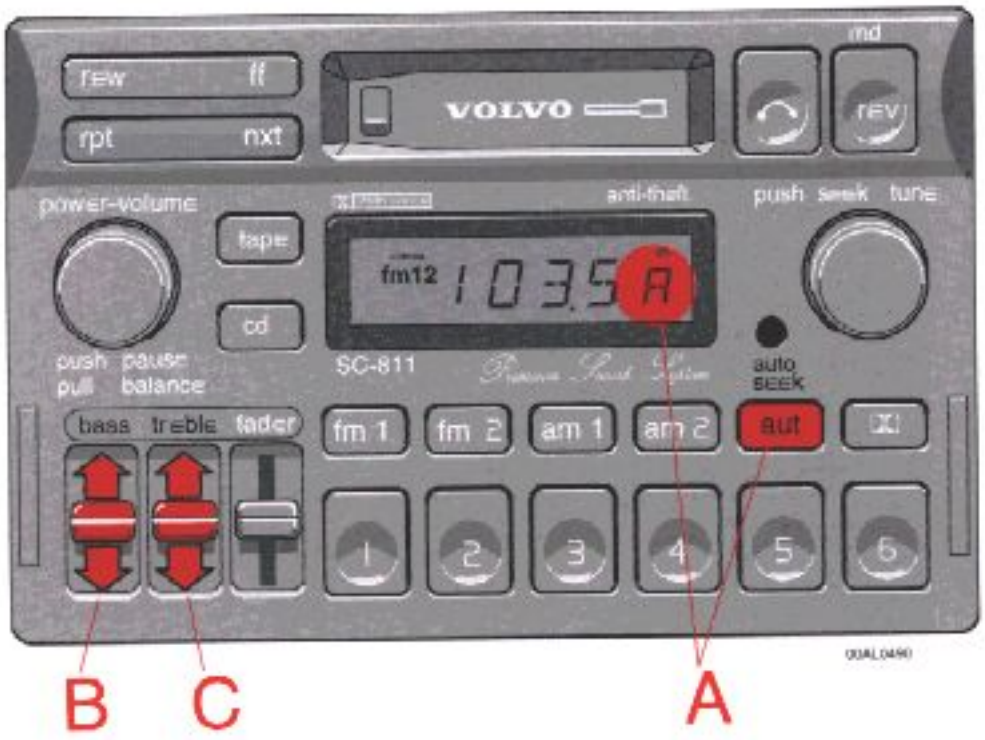
B - Preset programming

1. Tune to the desired frequency.
2. Depress and hold a preset button. The audio will cut out. Keep the button depressed until the audio comes on again (approx. 2 seconds).
3. The frequency is now stored on this preset button.

C - Preset buttons

To select a pre-programmed radio frequency, depress the preset button. The set frequency will be displayed.

pg. 1:34 Radio SC-811



A - Automatic programming (Auto seek)

This function automatically seeks and stores up to 8 strong AM or FM stations. This is especially useful

when traveling in areas where radio stations are unfamiliar.
1. Depress and hold the "auto-seek" button for at least 1 second. A number of strong stations (max. 8) on the chosen waveband are now automatically stored in the auto seek memory. If there are no audible stations, "no" is displayed.
2. Press the "auto seek" button (for less than 1 second) to obtain another autostored station. A new station will be selected each time the button is pressed momentarily.

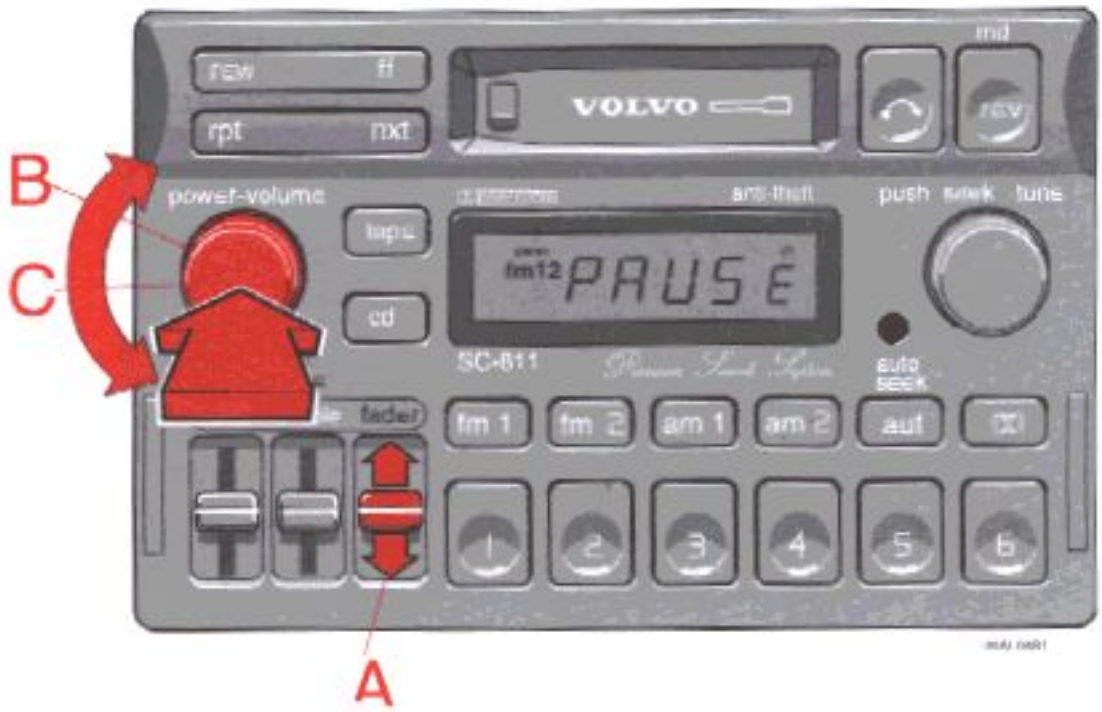
B - Bass control

Adjust the bass by sliding the control up or down (up to increase, down to decrease). A "detent" indicates "equalized" bass.

C - Treble control

Adjust the treble by sliding the control up or down (up to increase, down to decrease). A "detent" indicates "equalized" treble.

pg. 1:35 Radio SC-811



A - Fader control

Adjust front/rear speaker balance by sliding the control up or down.
(Up to direct more sound to the front speakers, down to direct more sound to the rear speakers).
The "detent" indicates "equalized" front/rear balance position.

B - Mute function

Press the "volume" knob to temporarily mute the sound. "PAUSE" is displayed.

C - Balance control

Pull out the "volume" knob and adjust the left/right balance by turning the knob counter-clockwise or clockwise.

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pg. 1:36 Cassette deck

A - Cassette slot

The cassette is inserted with the open side to the right (side 1 or A of the cassette upwards). When the cassette is inserted, the radio is disengaged and the cassette will start to play automatically. "TAPE 1" or "TAPE 2" is displayed to indicate which side of the tape is being played. When one side of the tape is being played. When one side of the tape has been played the unit will automatically play the other side (auto-reverse). The cassette can be inserted or ejected even when the unit is switched off.

B - Reversing the tape (rev)

Press the button to play the other side of the tape.
The side of the tape being played will be displayed.

C - Fast winding

The tape is advanced with "ff" and rewound with "rew". The tape side indicator in the display will flash rapidly during fast winding. Fast winding can be stopped by pressing the button again.

D - Dolby B button

Press this button when you use tapes recorded with the Dolby B noise reduction system. The Dolby Symbol will be indicated in the display.

pg. 1:37 Cassette deck

A - "nxt" (next selector)

Press the "nxt" button and the tape will automatically advance to the next song. There must be a pause of approx. 5 seconds between songs for this function to operate.

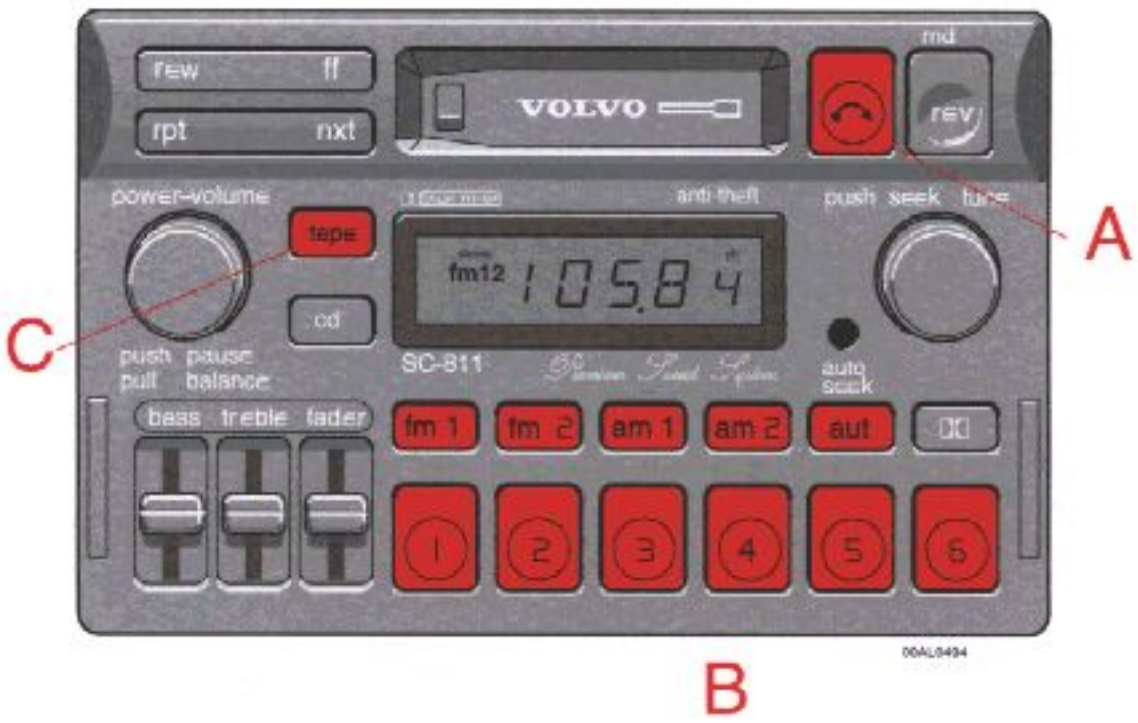
B - "rpt" (repeat) selector

Press the "rpt" button to rewind the tape to the beginning of the song. Press the button again to rewind to the beginning of the previous song.
There must be a pause of approx. 5 seconds between the songs for this function to operate.

C - Pause

If you press the "power-volume" knob the tape is stopped, the unit is silent and "PAUSE" is displayed. To restart the tape press the knob again.

pg. 1:38 Cassette deck



A - Cassette eject

If the button is pressed the tape will stop and the cassette will be ejected. The radio will be automatically engaged. The radio or CD will engage automatically (depending on which mode was activated before the tape was played).

B - To re-enter Radio mode

There are three alternative ways to re-enter Radio mode:

- Push one of the waveband selector buttons
- Push the auto seek button
- Push one of the preset buttons

When the unit re-enters Radio mode, the cassette will not be ejected.

C - To re-enter Tape mode

If the Tape function has been disconnected and the cassette has not been ejected, the Tape mode can re-entered by pressing the "tape" button.

pg. 1:39 CD - Remote (certain models)

A - CD mode selector

Press "cd" to actuate the CD mode. The disc/track last listened to will continue to play. If the CD-changer cartridge * is empty, "---" will be displayed.
If a selected disc does not exist, the disc number and "5--" will be displayed and the next disc will be automatically selected.

* The functions pertaining to the CD-changer are only applicable if the unit has been connected to the Volvo CD-changer which is sold separately as an accessory, or on certain models, standard on the car.

B - Disc number selector

Depress one of the preset buttons (1-6) to select the disc number desired. The selected disc number and track number will be displayed.

C - Music search

Press the "rew" or "ff" button to search within a track. While the button is depressed the playing time for this track will be displayed.

pg. 1:40 CD - Remote (certain models)

A - Track number selector

Turn the knob to select the track number desired.

B - Changing the selected track number

Press "nxt" for forward selection or "rpt" for backward selection. The chosen disc number and track

number will be displayed.

C - Playing-time display

When this button is pressed the playing time for the current track is displayed for 5 seconds.

pg. 1:41 CD - Remote (certain models)

A - Random choice

Press "rev" to actuate the random mode. From a disc chosen at random, 4 tracks will be played (also chosen at random). A new disc will then be played in the same way. "RND" will be displayed when this function is engaged.

B - Pause

If you press the "power-volume" knob, the disc is stopped, the unit is silent and "PAUSE" is displayed. To restart the disc, press the knob again.

C - To re-enter the Radio mode

There are two ways to re-enter Radio mode:
- Push one of the waveband selector buttons
- Push the autostore button

D - To re-enter Tape mode

If a cassette is already inserted, the tape deck will re-engage if the "tape" button is pressed.

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pg. 1:42 Premium Sound System SC-815 (certain models)

The following pages describe the use of your SC-815 Cassette radio and CD remote control

1. On/off (push)
2.

- Volume (turn)
- Pause/Mute (push)
- Balance (pull)

3. CD mode selector/Active sound control (single)
4. CD changer selector
5.

- Tape mode selector
- Tape direction selector PROG

6. Bass control
7. Treble control
8. Fader control
9.

- Preset buttons
- CD-Disc No. selector

10. Dolby B NR button

11. CD-random play
12. Cassette eject
13. Not in use
14. Scan
15. Auto seek memory
16.
- Seek tuning up/down
- TP -Next/Previous song
- CD -Next UP/Previous DOWN track

17.
- Manual tuning
- TP -fast forward/Rewind
- CD -Music search UP/DOWN

18. CD eject (single)
19. CD slot
20. Cassette slot
21. Display
22. Waveband selector (AM)
23. Waveband selectors (FM)
24.
- Anti-theft LED
- Disc in LED (single)

TP = Applicable only in Tape Mode

CD = Applicable only when in CD mode and connected to a CD changer.

pg. 1:43 Anti-theft code

Anti-theft code

The radio features anti-theft circuitry. If the set is removed from the vehicle or if the battery power is disconnected, a special code must be entered to enable operation of the set.
Refer to the radio code card supplied with your vehicle or ask your retailer for the correct code.
When the car is parked with ignition key removed the anti-theft LED will flash.

To enter the code

After installation or when the set has been disconnected from power, the set displays "COdE" when it is switched on.
Enter the 4-digit code using the preset buttons.
If the correct code is entered the set is entered the set is ready to use.
If you enter an incorrect code you must enter the correct code again from the beginning.

Incorrect code

If an incorrect code has been entered "EEEE" is displayed. Enter the correct code. After three unsuccessful coding attempts the set will lock and remain locked for two hours.
"OFF" is displayed.
During this waiting period:

- the battery must be connected
- the ignition key must be turned to position I
- the unit must be turned on

Make sure the headlights are turned off to help prevent battery drain. Enter the code again once this time has elapsed.

pg. 1:44 Radio SC-815

A - On/off switch

Push the button to switch on the radio. Press the button slightly longer to turn the radio off.

B - Volume control

Turn the button clockwise to increase the volume. The volume control is electronic and has no end stop.

C - Waveband selector

The desired waveband is set by pressing one of the waveband selector bands. The frequency and waveband is shown on the display.
NOTE: There are two FM wavebands and one AM waveband. This makes it possible to store 2 x 6 FM stations and 6 AM stations in memory.

D - Setting frequency selection

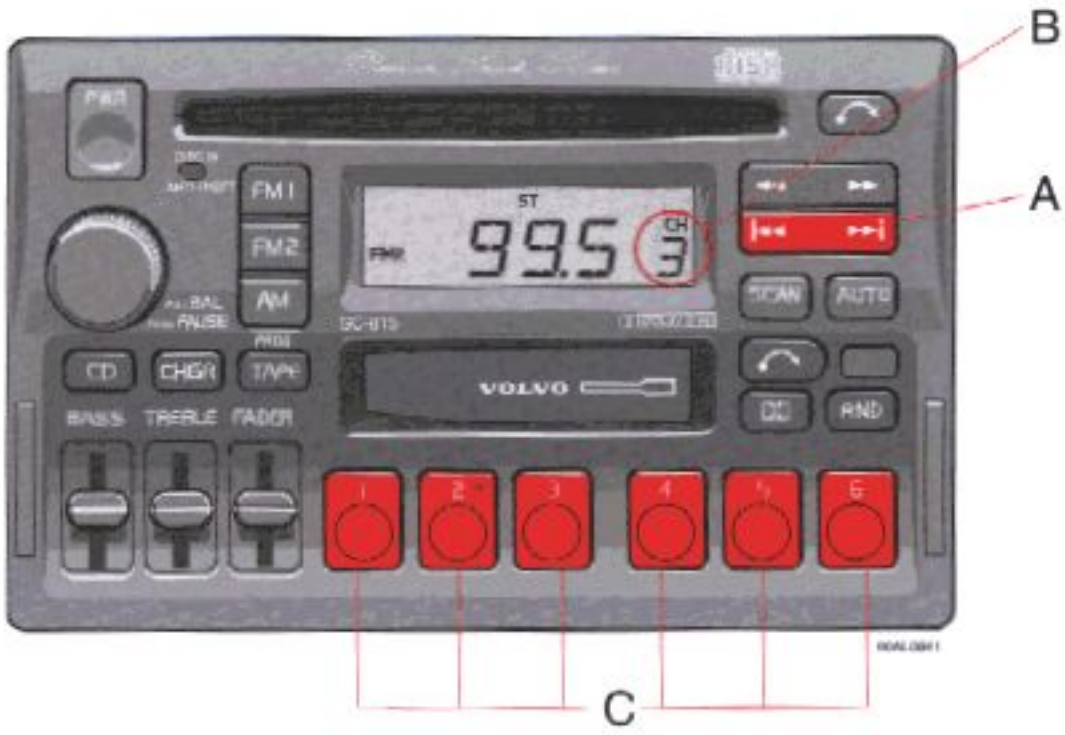
The radio can be used in most parts of the world by changing the frequency selection intervals as follows:
Depress and hold preset button 5 and turn the radio ON. "USA" will flash on the display. Each time button 5 is pressed, the frequency selection will change from "USA" to "AUS", etc. When the correct country name is displayed, wait 5 seconds and the radio will be ready for use.

E - Manual tuning

Press the left side tune button to tune to lower frequencies and the right side to tune to higher frequencies. The tuned frequency is displayed.

ST will be displayed to indicate stereo FM reception.

pg. 1:45 Radio SC-815



A - Seek tuning up/down

Press the left side tune button to tune to lower frequencies and the right side to tune to higher frequencies. The radio seeks the next audible station and stops there. If you wish to continue the seek tuning, press the tune button again.

B - Preset programming

1. Tune to the desired frequency.
2. Depress and hold a prest button. The audio will cut out. Keep the button depressed until the audio comes on again (approx. 2 seconds).
3. The frequency is now stored on this present button.

C - Preset buttons

To select a pre-programmed radio frequency, depress the preset button. The set frequency will be displayed.

A - Automatic programming (AUTO)

This function automatically seeks and stores up to 8 strong AM or FM stations.
This is especially useful when travelling in areas where radio stations are unfamiliar.
1. Depress and hold the "AUTO" button for at least 1 second . A number of strong stations (max. 8) on the chosen waveband are now automatically stored in the memory.
The lowest frequency station is heard. If there are no audible stations, "no" is displayed.
2. Press the "AUTO" button (for less than 1 second) to obtain another autostored station.
A new station will be selected each time the button is pressed momentarily.

B - Bass control

Adjust the bass by sliding the control up or down (up to increase, down to decrease). A "detent" indicates "equalized" bass.

C - Treble control

Adjust the treble by sliding the control up or down (up to increase, down to decrease). A "detent"

indicates "equalized" treble.

pg. 1:47 Radio SC-815

A - Fader control

Adjust front/rear speaker balance by sliding the control up or down.
(Up to direct more sound to the front speakers, down to direct more sound to the rear speakers.
The "detent" indicates "equalized" front/rear balance position.

B - Pause function

Press the "volume" knob to temporarily mute the sound. "PAUSE" is displayed.

C - Balance control

Pull out the "volume" knob and adjust the left/right balance by turning the knob counterclockwise or clockwise.

D - Scan

Press this button to listen to each station for five seconds. Press it again to stop scanning.

E - Active Sound Control (ASC)

The ASC function automatically adjusts the volume level of the audio system according to driving speed.
To deactivate ASC depress the "CD" button until "ASC" is no longer displayed.
To activate ASC, depress the "CD" button until "ASC" is displayed (approx. 2 seconds).

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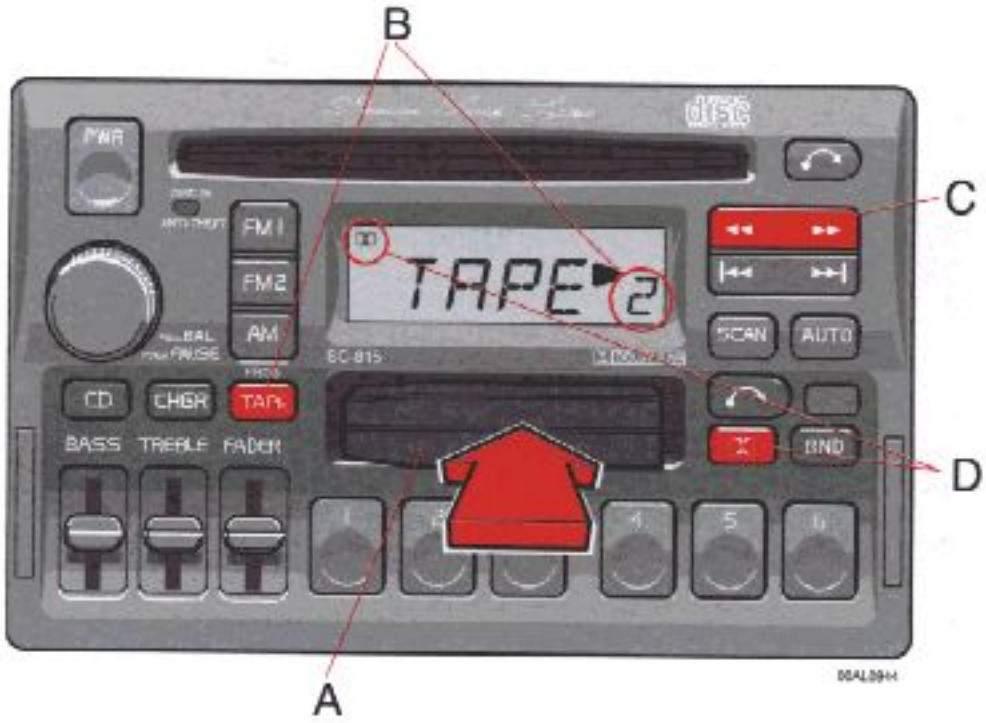
pg. 1:48 Cassette deck



A - Cassette slot

The cassette is inserted with the open side to the right (side 1 or A of the cassette upwards). When the cassette is inserted, the radio is disengaged and the cassette will start to play automatically. "TAPE ▶ " or "TAPE ◀ " is displayed to indicate which side of the tape is being played. When one side of the tape has been played the unit will automatically play the other side (auto-reverse). The cassette can be inserted or ejected even when the unit switched off.

B - Reversing the tape (PROG)

Press the button to play the other side of the tape.
The side of the tape being played will be displayed.

C - Fast winding

The tape is advanced with " ▶▶ " and rewound with " ◀◀ ". The tape side indicator in the display will

flash rapidly during the fast winding.
Fast winding can be stopped by pressing the button again.

D - Dolby B NR button

Press this button when you use tapes recorded with the Dolby B noise reduction system. The Dolby symbol will be indicated in the display.

pg. 1:49 Cassette deck

A - Next selector

Press the " " button and the tape will automatically advance to next song. There must be a pause of approx. 5 seconds between songs for this function to operate.

B - Previous selector

Press the " " button and the tape will automatically rewind to the previous song. There must be a pause of approx. 5 seconds between songs for this function to operate.

C - Pause

If you press the "volume" knob the tape is stopped, the unit is silent and "PAUSE" is displayed. To restart the tape press the knob again.

D - Scan

Press this button to listen to the first five seconds of each song. Press it again to stop scanning.

pg. 1:50 Cassette deck

A - Cassette eject

If the button is pressed the tape will stop and the cassette will be ejected. The radio will be automatically engaged. The radio, CD or CD changer will engage automatically (depending on which mode was activated before the tape was played).

B - To re-enter Radio mode

There are three alternative ways to re-enter Radio mode:

- Push one of the waveband selector buttons
- Push the Auto seek button
- Push one of the preset buttons

When the unit re-enters Radio mode, the cassette will not be ejected.

C - To re-enter Tape mode

If the Tape function has been disconnected and the cassette has not been ejected, the Tape mode can be re-entered by pressing the "TAPE" button.

D - To re-enter CD mode

If the CD function has been disconnected and the CD has not been ejected, the CD mode can be re-entered by pressing the "CD" button.

E - To re-enter CD changer mode

If the CD changer function has been disconnected, the CD changer mode can be reentered by pressing the "CHGR" button.

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pg. 1:51 CD - Single

A - CD slot

With the audio system on, insert a disc into the slot with the label side up. When the CD is inserted, the radio is disengaged and the CD will start to play automatically.
The CD can be inserted or ejected even when the unit is switched off.

When the CD has been inserted into the player, the "DISC IN" light will always be ON even if the radio, tape deck or CD changer are in use.

B - CD mode selector

Press "CD" to actuate the CD mode. The track last listened to will continue to play. If the CD-player is empty, "NO DISC" will be displayed.

C - CD eject

If the button is pressed the CD will stop and the disc will be ejected. The radio will be automatically

engaged. The radio, tape or CD changer will engage automatically (depending on which mode was activated before the CD was played).

NOTE: If the CD eject button is pressed and the disc is not removed within 12 seconds, the disc will not be drawn into the CD player again.

pg. 1:52 CD - Single

A - Music search

Press the " ◄◄ " or " ►► " button to search within a track. While the button is depressed the playing time for this track will be displayed.

B - Changing the selected track number

Press " ►►| " for forward selection or " |◄◄ " for backwards selection. The chosen track number will be displayed.

C - Playing- time display

When the "CD" button is pressed the playing time for the current track is displayed for 5 seconds.

D - Scan

Press this button to listen to the first ten seconds of each track. Press it again to stop scanning.

pg. 1:53 CD - Single

A - Random choice

Press "RND" to actuate the random mode. From A disc, tracks will be played at random. "RND" will be displayed when this function is engaged.

B - Pause

If you press the "volume" knob the disc is stopped, the unit is silent and "PAUSE" is displayed. To restart the disc press the knob again.

C - To re-enter Radio mode

There are two ways to re-enter Radio mode:

- Push one of the waveband selector buttons
- Push the "AUTO" button"

D - To re-enter Tape mode

If a cassette is already inserted, the tape deck will re-engage if the "TAPE" button is pressed.

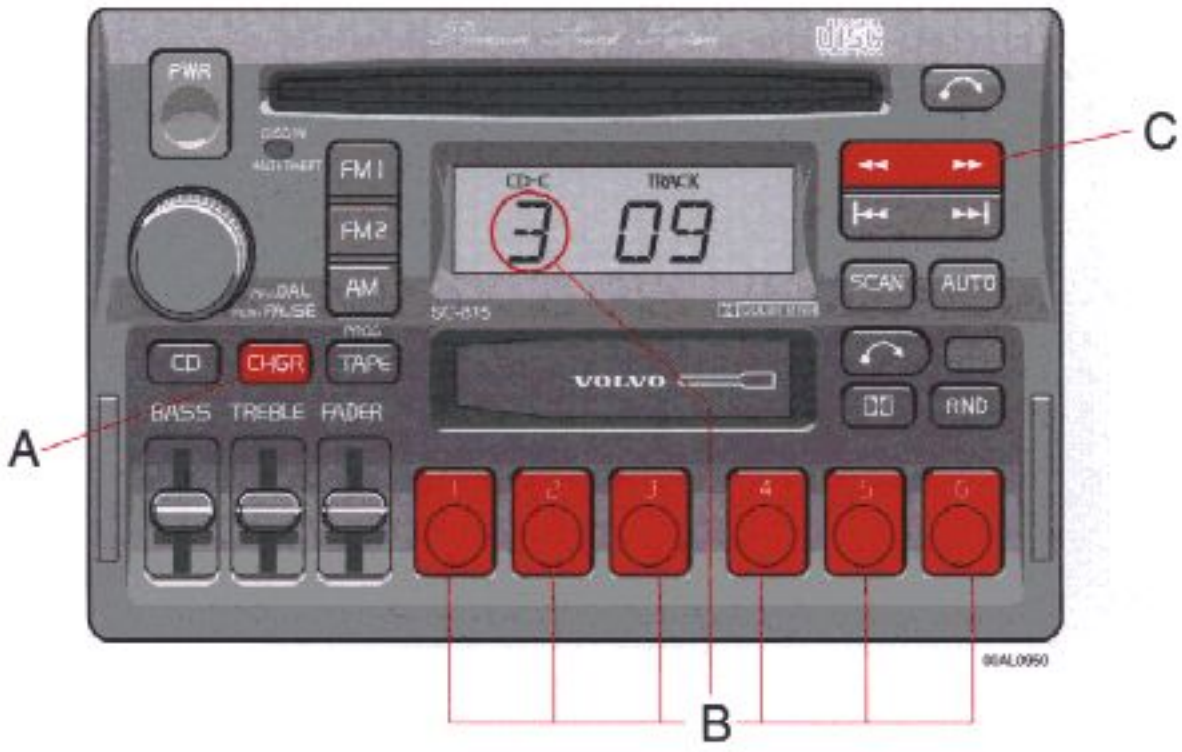
E - To re-enter CD mode

If the CD function has been disconnected and the CD has not been ejected, the CD mode can be re-entered by pressing the "CD" button.

F - To re-enter CD changer mode

If the CD changer function has been disconnected, the CD changer mode can be re-entered by pressing the "CHGR" button.

pg. 1:54 CD - Remote (certain models)



A - CD changer mode selector

Press "CHGR" to actuate the CD changer mode. The disc/track last listened to will continue to play. If the CD-changer cartridge* is empty, "---" will be displayed. If a selected disc does not exist, the disc number and "5--" will be displayed and the next disc will be automatically selected.

* The functions pertaining to the CD-changer are only applicable if the unit has been connected to the Volvo CD-changer, which is sold separately as an accessory, or on certain models, standard on the car. If no CD-changer is connected to the unit "EEEE" will be displayed if you happen to choose CHGR mode.

B - Disc number selector

Depress one of the preset buttons (1-6) to select the disc number desired. THe selected disc number and track number will be displayed.

C - Music search

Press the " ◄◄ " or " ►► " button to search within a track. While the button is depressed the playing time for this track will be displayed.

pg. 1:55 CD - Remote (certain models)

A - Changing the selected track number

Press " ◄◄ " for forward selection or " ►► " for backward selection. The chosen disc number and track number will be displayed.

B - Playing-time display

When the "CHGR" button is pressed the playing time for current track is displayed for 5 seconds.

C - Scan

Press this button to listen to the first ten seconds of each track. Press it again to stop scanning.

pg. 1:56 CD - Remote (certain models)

A - Random choice

Press "RND" to actuate the random mode. From a disc chosen at random, 4 tracks will be played (also chosen at random). A new disc will then be played in the same way. "RND" will be displayed when this function is engaged.

B - Pause

If you press the "volume" knob the disc is stopped, the unit is silent and "PAUSE" is displayed. To restart the disc press the knob again.

C - To re-enter Radio mode

There are two ways to re-enter Radio mode:
- Push one of the waveband selector buttons
- Push the "AUTO" button

D - To re-enter Tape mode

If a cassette is already inserted, the tape deck will re-engage if the "TAPE" button is pressed.

E - To re-enter CD mode

If the CD function has been disconnected and the CD has not been ejected, the CD mode can be re-entered by pressing the "CD" button.

F - To re-enter CD changer mode

If the CD changer function has been disconnected, the CD changer mode can be reentered by pressing the "CHGR" button.

pg. 1:57 Technical specifications

SC-710

Output: 4 x 20 W (10% dist.)
Output impedance: 4 Ohms
System voltage: 12 Volts, negative ground
Fuse: 10 A

Radio

System: PLL (Phase Lock Loop) system with tuned RF (Radio Frequency) front end and automatic wide band gain control. Electronic suppression circuitry (noise killer).
Frequency range: 87.9 - 107.9 MHz
530 - 1710 kHz
Sensitivity: 1.1 V
20 V
Stereo separation: 35 dB

Cassette deck 4 - track, 2 channel stereo

Tape speed: 4.76 cm/sec.

Channel separation 48 dB
Frequency range 30 - 15000 Hz
S/N (120 V) 55 dB
S/N (70 V) 55 dB
Wow and Flutter less than 0.06%
Pinch off

SC-811

Output: 4 x 25 W (10% dist.)
Output impedance: 4 Ohms
System voltage: 12 Volts, negative ground
Fuse: 10A

Radio

Radio System: PLL (Phase Lock Loop) system with tuned RF (Radio Frequency) front end automatic wide band gain control. Electronic suppression circuitry (noise killer).

Frequency range: 87.9 - 107.9 MHz
530 - 1710 kHz
Sensitivity 1.1V
20V
Stereo separation: 35dB

Cassette deck 4-track, 2 channel stereo

Full logic electronic control
Tape speed: 4.76 cm/sec.
Channel separation: 53dB
Frequency range: 30-15000 hz
S/N: 56dB without Dolby B
S/N: 66 dB with Dolby B
Wow and Flutter: less than 0.06 %

"Dolby" and the double D symbol are the trademarks of Dolby Laboratories Licensing Corporation. Dolby noise reduction is manufactured under license from Dolby Laboratories Licensing Corporation.

pg. 1:58 Technical specifications

SC-815

Power output: 4 x 20 W (10% dist.)
Output impedance: 4 Ohms
System voltage: 12 Volts, negative ground
Fuse: 10 A

Radio

System: PLL (Phase Lock Loop) system with tuned RF (Radio Frequency) front and end automatic wide band gain control. Electronic suppression circuitry (noise killer).

Frequency range: FM 87.9-107.9 MHz
AM 530-1710 kHz

Sensitivity: FM 1.1µV
AM 20 µV

Stereo separation 35dB

Cassette deck 4-track, 2-channel stereo

Full logic electronic tape transport
Tape speed: 4.76 cm/sec.
Channel separation 53dB
Frequency range 30-15000 hz
S/N 56 dB without Dolby B NR
S/N 66dB with Dolby B NR
Wow and Flutter less than 0.06%

Pinch-off

"Dolby" and the double D symbol are the trademarks of Dolby Laboratories Licensing Corporation. Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

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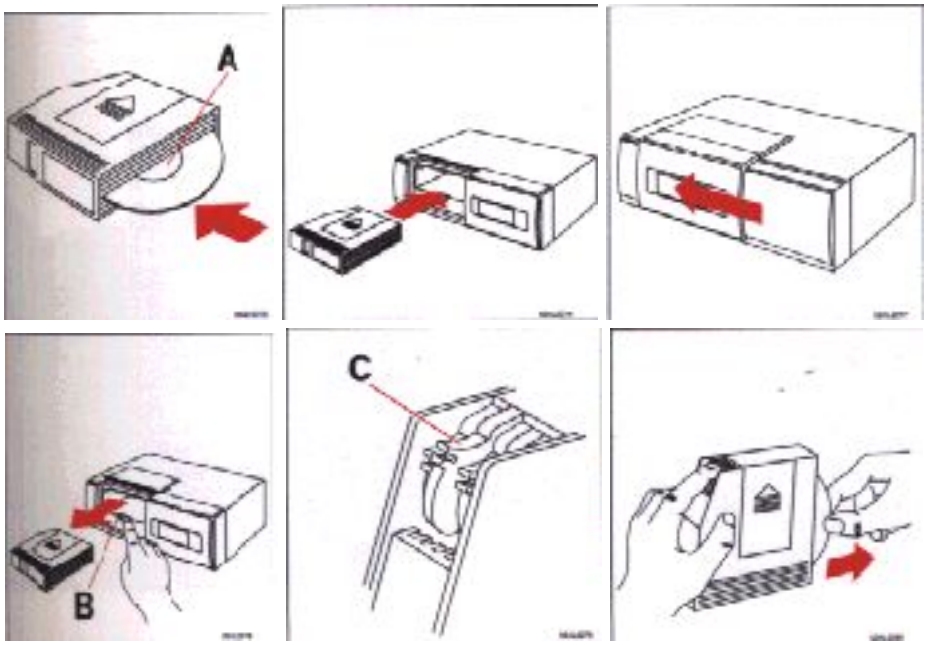
pg. 1:59 Audio systems, general information



CD remote changer

The CD changer, which is available separately, is loaded with a cartridge containing 6 discs. Extra cartridges are available at your Volvo retailer.
Insert the discs into the cartridge, label (A) up.
Insert the cartridge and close the cover.
Eject the cartridge by pressing the eject button (B).
Remove the discs by depressing the lock tabs (C).

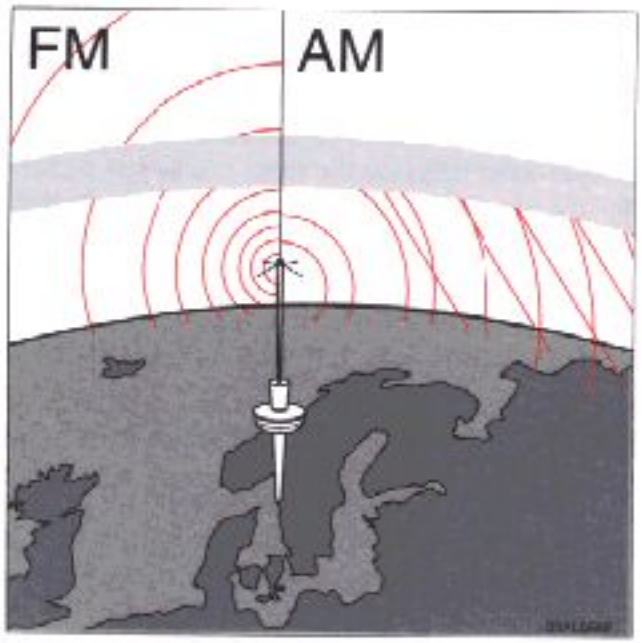
Operating tips :

- Before using a new disk for the first time, remove any burrs in the center/outer edge by running the stem of a pen or similar object around the hole/edge of the disc.
- Use high quality discs only.
- Keep the discs clean. Wipe them with a soft, clean, lint-free cloth, working from the center outwards. If necessary, dampen the cloth with a neutral soap solution. Dry thoroughly before using.
- Never use cleaning spray or anti-static liquid. Use only cleaners specifically made for CD's.
- Use discs of the correct size only (3.5" discs should never be used).
- Do not put tape or labels on the disc itself.
- Volvo does not recommend the use of plastic outer rings on the disc.
- Condensation may occur on discs/optical components of the changer in cold winter weather. The disc

can be dried with a clean, lint-free cloth. Optical components in the CD changer may, however, take up to one hour to dry off.

- Never attempt to play a disc which is damaged in any way.
- When not in use, the discs should be stored in their covers. Avoid storing discs in excessive heat, direct sunlight or dusty locations.

pg. 1:60 Audio systems, general information

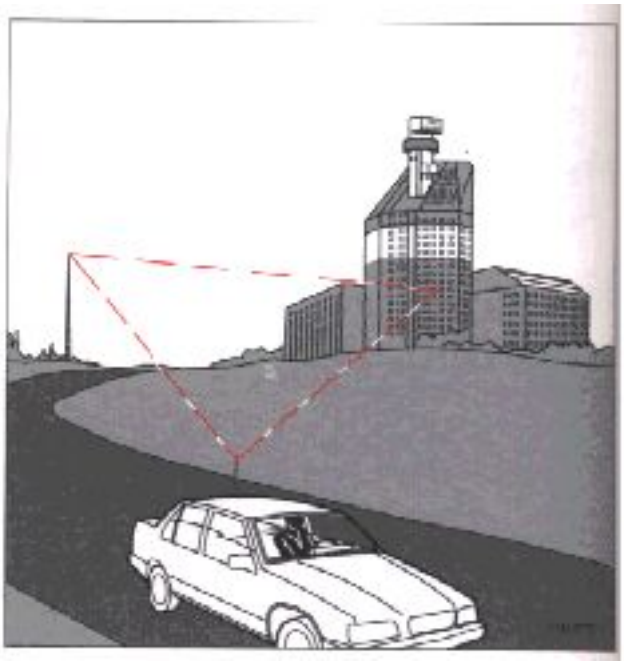


Sending signals

The FM waves do not follow the earth's surface nor do they bounce off the atmosphere. For this reason their range is limited. The AM waves follow the earth's surface and reflect against the atmosphere, giving them a wide range.

Weak reception (fading)

Because of the limited range of the FM senders and the fact that these waves are very reflective, this problem usually occurs with FM reception. If the sender is blocked by buildings or mountains, static can result.

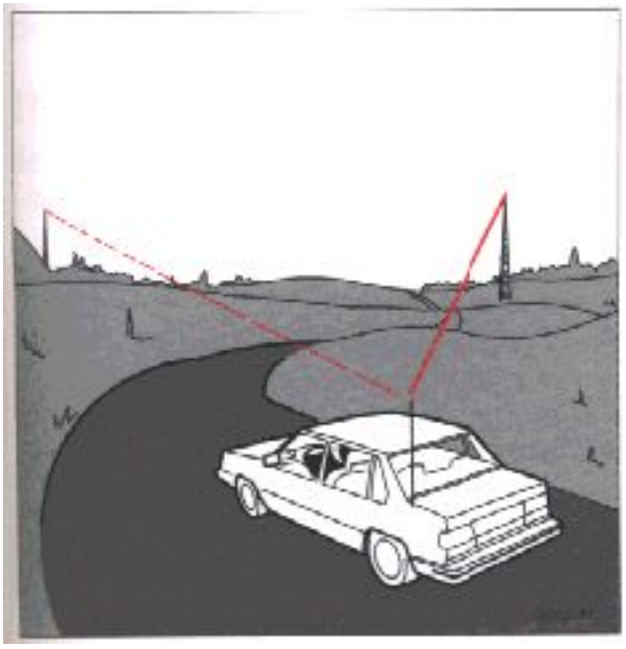


Static

The reason why FM but not AM is audible is covered parking areas, under bridges, etc., is that FM

signals reflect against solid objects such as buildings. Because these waves are very reflective, static can result. This static is the result of the reflected signal and the direct signal reaching your antenna at slightly different times causing a cancellation of all signals. This problem occurs largely in built-up areas. To help minimize this situation, turn down the treble.

pg. 1:61 Audio systems, general information



Cross modulation

If you listen to a weak station in the vicinity of a stronger one, both stations may be received simultaneously.

FM - reasons for distortion

FM is affected by the electrical systems of nearby vehicles, especially those without suppression. The distortion increases if the station is weak or poorly set.
The FM reception is not as sensitive to electrical disturbances as AM.

AM - reasons for distortion

AM reception is sensitive to electrical disturbances such as power lines, lighting, etc.

pg. 1:62 Audio systems, general information

FM stereo reception

Stereo reception places very high demands on the signal quality which means the type of distortions previously mentioned become even more obvious. The signal strength needs to be stronger for good stereo reception and this limits the effective range of the slender.

We hope that this information proves to be useful and provides you with a better understanding of the problems related to car radio reception.

Reception conditions are not always optimum and this is, of course, beyond our control. However, we have endeavored to make the Volvo Audio System of a quality that will enable you to enjoy the best possible reception no matter what the reception conditions may be.

Radio antenna (sedans)

NOTE: Always lower the antenna when using an automatic car wash or entering a garage.
The antenna should be cleaned at least every 10,000 miles (16,000 km) or more frequently if needed. Use WD40 for cleaning.

Spray the antenna with WD40 and wipe it clean and dry with a rag. Spray it again. Lower and raise the antenna. Wipe it clean and dry again. Lower and raise the antenna 4-6 times. Make sure it is dry and free from dirt or lubricating oil.

Radio antenna (wagons)

The radio antenna is built into the driver side window of the cargo area. This antenna also has a factory installed antenna booster.

NOTE: The antenna will not work without this booster.

Place objects in the cargo area so that the antenna wires on the inside of the window will not be

damaged. When cleaning the window be careful that the wires are not scratched by rings, etc. If they are damaged, radio reception will be impaired.

Cassettes

- Store cassettes in their cases.
- Do not touch the tape surface with your fingers.
- Tapes should not be exposed to direct sunlight or extreme temperatures.
- Keep tapes away from oil, grease and other contaminants.
- For optimal tape deck performance Volvo does not recommend the use of C-120 tapes.
- Take up slack using a pen or a pencil before inserting a cassette in the cassette slot.

Cassette cleaning

We recommend the use of the Volvo Cleaning Cassette available as a genuine Volvo accessory. Regular use improves sound quality, cleans vital parts and prevents tape tangle.

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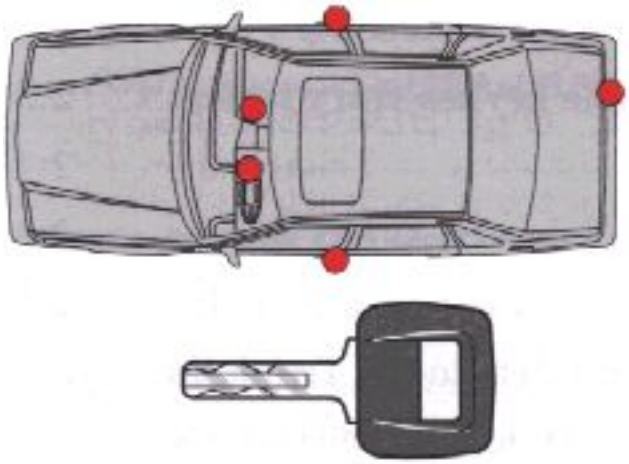
Body and interior

pg. 2:1 Body and interior

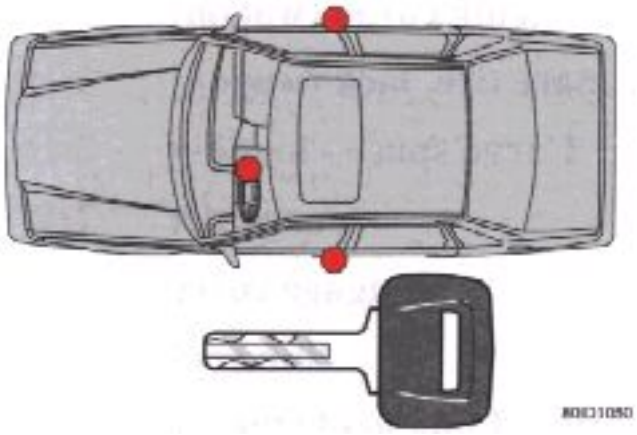
Body and interior
The seats, doors, sun roof, mirrors, etc. are described on the following pages.

2:2 Keys, Doors and Locks
2:3 Remote keyless entry system
2:4 Front seats
2:5 Rear/side view mirrors, Vanity mirror
2:6 Interior light, Rear reading lights
2:7 Child safety locks, Trunk lid
2:8 Passenger compartment storage spaces
2:9 Hood
2:10 Trunk light, spare tire, jack (sedan)
2:11 Wagon tailgate/child safety lock
2:12 Concealed storage bins, Folding rear seat (wagon)
2:14 Removing seat cushions, Securing cargo (wagon)
2:15 Cargo space lighting, spare tire, jack (wagon)
2:16 Cargo space - loading
2:17 Cargo net
2:18 Luggage cover
2:19 Sun roof
2:20 Emergency sun roof operation, Long load storage
2:21 Alarm

pg. 2:2 Keys, Doors and Locks



Master key
This key operates all locks



Service key
Front doors, starting (ignition) switch/steering wheel lock

Number tag

The key number codes are stamped on a separate tag supplied with the keys. This tag should be separated from the key ring and kept in a safe place. In the event the original keys are lost, duplicates may be ordered from your Volvo retailer.

Doors and locks

Your car is equipped with a central locking system.
The key, used on the *driver's* door, will lock/unlock all doors and trunk/tailgate.
The key used on *either* of the front doors will lock all doors and trunk/tailgate.

Turn the key once in the driver's door to unlock that door only.
Turn the key in the same direction again (within 10 seconds) to unlock all doors, trunk/tailgate.
One turn with the key towards locking in either of the front doors locks all doors, trunk/tailgate.
Use the switch on the instrument panel (with the doors closed) to lock/unlock the car from the inside.

Check the action of the buttons on the other doors to verify their correct function (lock/unlock). The driver's door can be locked only by using the key when outside the vehicle. On vehicles equipped with the optional remote control locking system, refer to the following page.

WARNING!
The doors should not be locked while driving. In case of an accident, this may hinder rapid access to the occupants of the vehicle. (Also see information on "child safety locks".

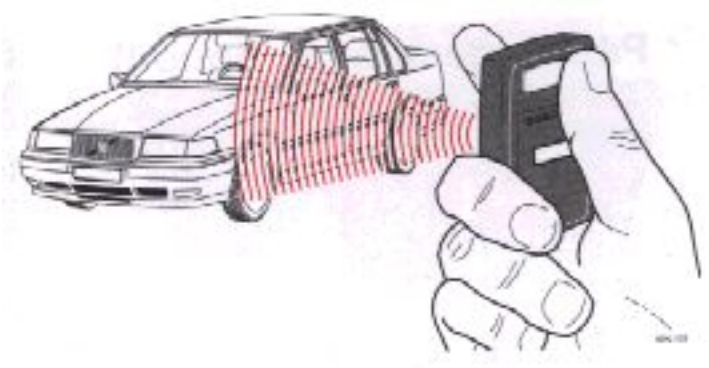
pg. 2:3 Remote keyless entry system

Remote keyless entry system

As an option, your car can be equipped with a remote control transmitter. This transmitter uses a radio frequency which will allow "keyless" entry into the passenger compartment or the trunk. You will be supplied with two coded key ring transmitters, which will enable you to lock/unlock all doors and the trunk/tailgate from a distance of 10-15 feet (3-5 meters).

To lock :
Press button 1 once to lock all doors and trunk/tailgate.

To unlock :
Press button 2 once to unlock the driver's door only.
Press button 2 again (within 10 seconds) to unlock all doors and trunk/tailgate.



Aim the base of the remote control unit at the car to get the best range.

On vehicles equipped with an alarm, the alarm will also be activated/deactivated by this system.
As an extra security precaution in certain situations (valet parking, etc.), Volvo recommends that the transmitter not be included when the keys are given to anyone. The service key can be used instead. If one of the transmitters is misplaced, contact the nearest authorized Volvo retailer for assistance.

Batteries

The remote transmitter is powered by 2 three-volt batteries, type CR 1220. If three short signals are audible from the transmitter each time you lock/unlock the car, this indicates that the batteries are weak. Replacement: Remove the battery cover on the back of the transmitter with a coin. Replace the batteries. Reinstall the cover, making sure it is secured tightly to help protect the transmitter.

New transmitters

If you purchase additional transmitters, they must be programmed to function with your remote keyless entry system. Please refer to page 2:21 for instructions.

This device complies with the FCC rules Part 15. Operations is subject to the following two conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference that may be received, including interference that may cause undesired operation.

WARNING! Volvo does not recommend using the transmitter to lock the doors from inside the car. On cars equipped with an alarm, the alarm would be activated and would sound when one of the doors is opened. The doors must not be locked using the remote transmitter while the vehicle is occupied. In case of an accident, this may hinder rapid access to the occupants of the vehicle. The alarm will also sound on models equipped with this feature.

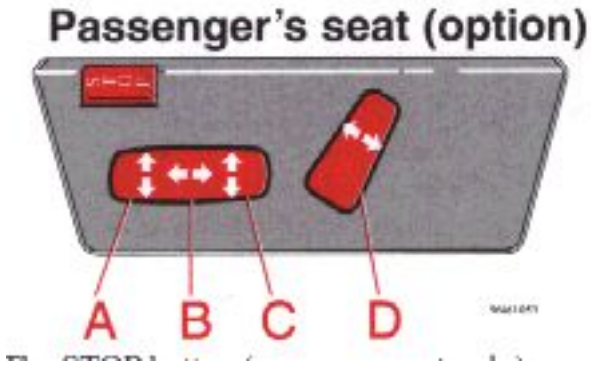
pg. 2:4 Front seats

Electrically operated front seats

The front seats are electrically operated. Using the switches on the sides of the seats you can adjust:
- the height of the seat (rear)
- the height of the seat (front)
- the forward-backward movement
- the backrest tilt

NOTE: The electrically operated front seats have an overload protector which engages if an object blocks either of the seats. If this happens remove the object and wait 20 seconds. The overload protector should then have cooled down and the power seats should function normally.

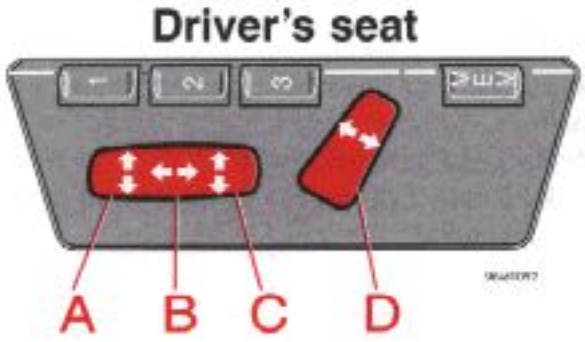
Passenger's seat (option)



The STOP button (passenger seat only) overrides the other controls. To stop movement of the seat, press and release the STOP button. Press the button again to reactivate the seat controls.
A Seat front (raise/lower)
B Forward - rearward
C Seat rear (raise/lower)
D Backrest tilt

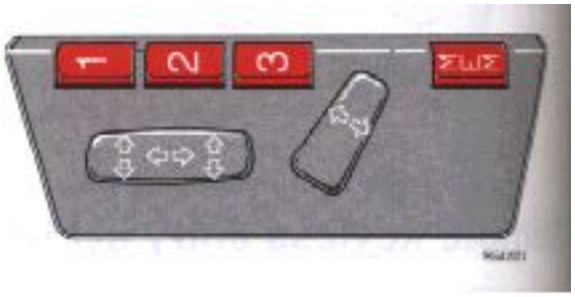
WARNING! Do not adjust the seat while driving. The seat should be adjusted so that the brake pedal can be depressed fully. In addition, position the seat as far rearward as comfort and control allow. The seat rails on the floor must not be obstructed in any way when the seat is moved.

Driver's seat



Movement of the driver's seat can be STOPPED at any time by pressing any button on the seat's control panel.

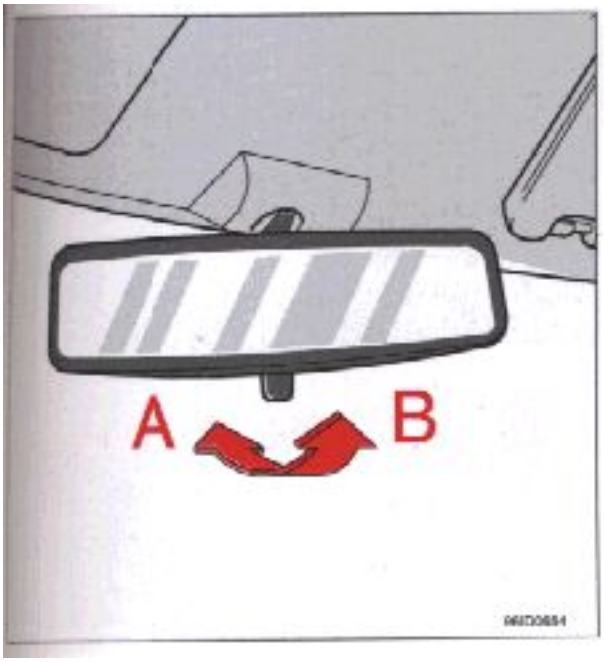
WARNING! The driver's seat is operable with the ignition OFF.
Therefore, children should never be left unattended in the car.



Programming the memory

Three seat positions can be programmed. To program a seat position:
1. Adjust the seat to the desired position.
2. Depress the MEM button.
3. Press button 1 to program the current position of the seat.
Buttons 2 and 3 can be programmed in the same way for two additional seat positions. To move the seat to a programmed position, depress button 1, 2 or 3 until the seat stops. If the button is released before the seat has the reached the programmed position, it will stop as a safety precaution.

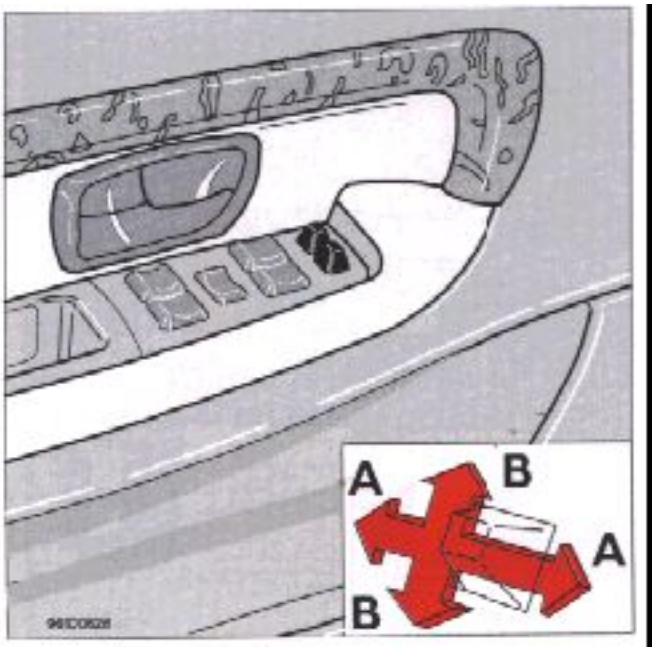
pg. 2:5 Rear-/side-view mirrors, Vanity mirrors



Rear-view mirror

A Normal position

B Night position, reduces glare from following headlights



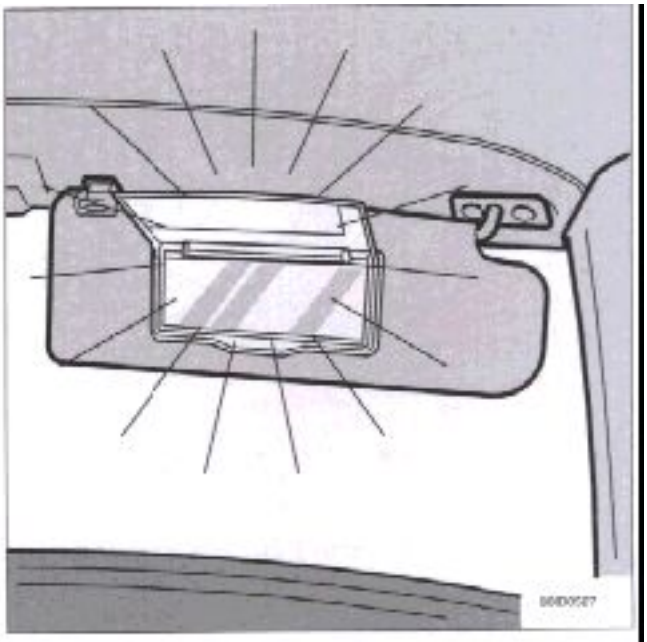
Control switches

Electrically-operated side-view mirrors

The control switches are located in the driver's door armrest.
A Adjustment sideways
B Adjustment up/down

WARNING! Objects seen in the wide-angle right side-view mirror are closer than they appear to be.
The mirrors should always be adjusted prior to driving.

CAUTION : Never use ice scrapers made of metal as they can easily scratch the mirror surface.



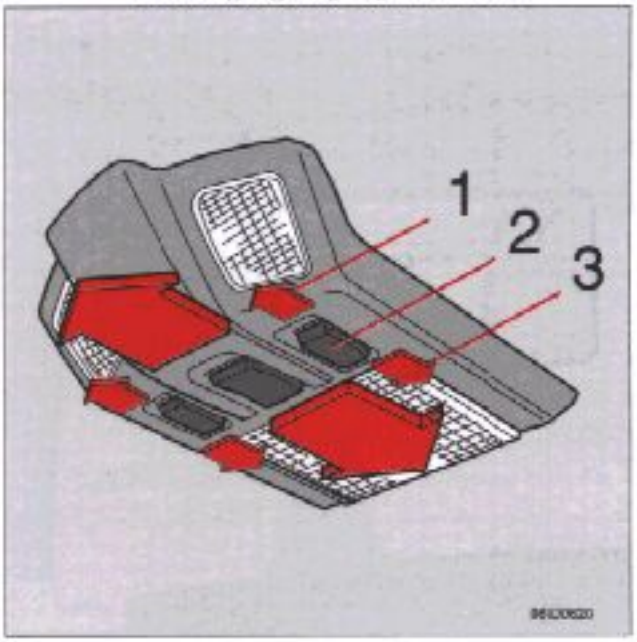
Passenger side mirror shown

Vanity mirrors

The vanity mirrors are located on both front sun visors.
The lamps light up when the covers are opened.

pg. 2:6 Interior light, Rear reading lights

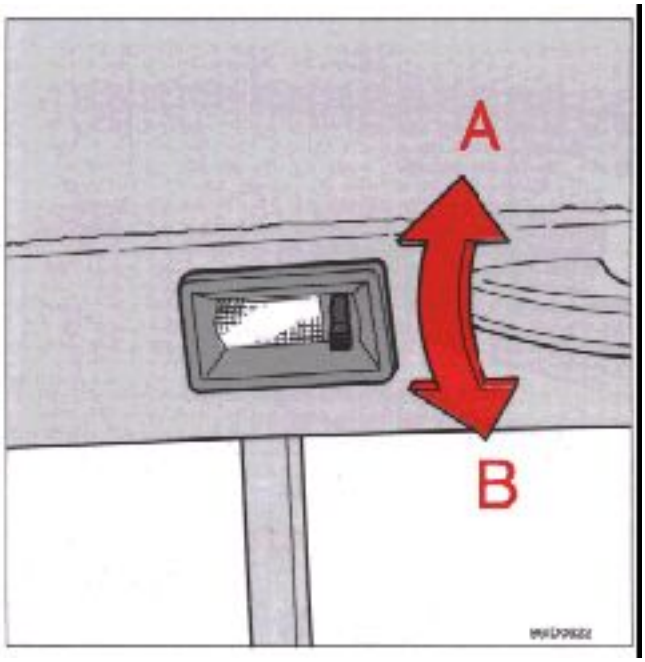
Reading lights for front seats



Interior light

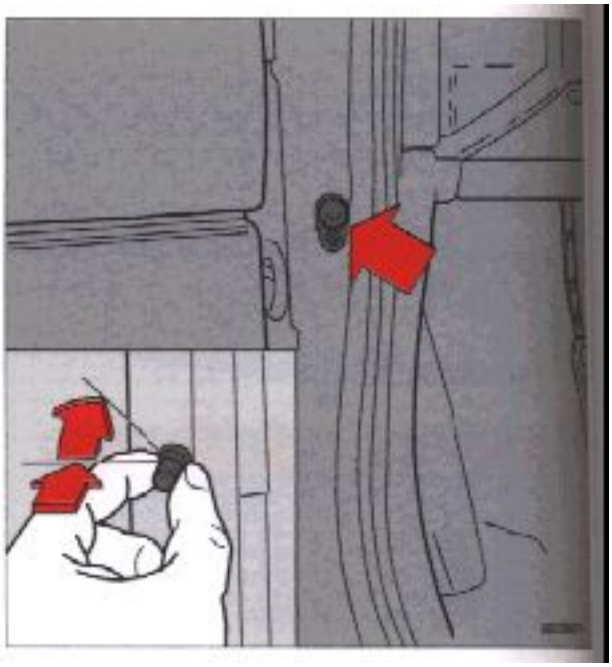
Interior light
1 Lights always on.
2 Lights always off.
3 Light is on when either of the front or the rear doors are opened.

A time-delay device keeps the interior illuminated for approx. 12 seconds after closing the driver's door. This facilitates finding the starting (ignition) switch, etc., at night.



Rear reading lights

Rear seat passengers can turn the rear reading lights on or off by using the adjacent switches.
A ON
B OFF



To avoid battery drain

The interior light and the warning lights in the rear of the doors come on when a door is opened.
To avoid battery drain when the doors are opened for prolonged periods, these lights can be switched off by pushing in and turning the door light switches slightly clockwise. When the door is closed the switch will return to its normal position.

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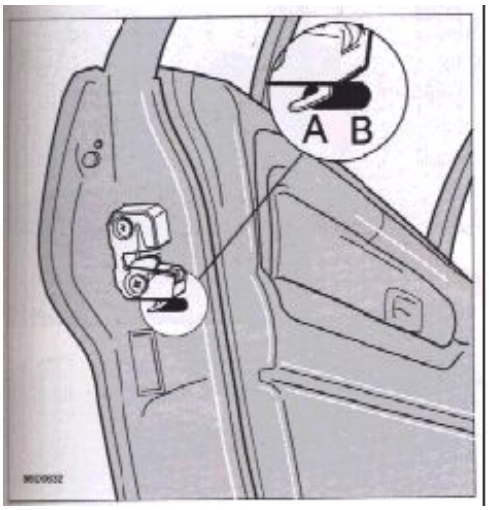
pg. 2:7 Child safety locks, Trunk lid (sedan)



Child safety locks

The buttons are located on the rear door jams.
A The door lock functions normally.
B The door cannot be opened from the inside.
Normal operation from outside.

WARNING!
Remember, in the event of an accident, the rear seat passengers cannot open the doors from the inside with the buttons in position B .

Trunk lid

The trunk lock is incorporated in the central locking system. This means that you can either lock or unlock the trunk by means of either of the front doors.
You can also operate the trunk lock directly with the master key even if the vehicle is centrally locked.

Unlocking *Locking*

Withdraw key in vertical position.
The trunk lock can also be disconnected from the central locking system by turning the key counterclockwise as shown below:

Withdraw key in horizontal position.

The trunk is now always locked.
This option can be used if for example, you lend your car to somebody. If you give only the service key to the driver it will not be possible to open the trunk.
To reconnect the lock to the central locking system:

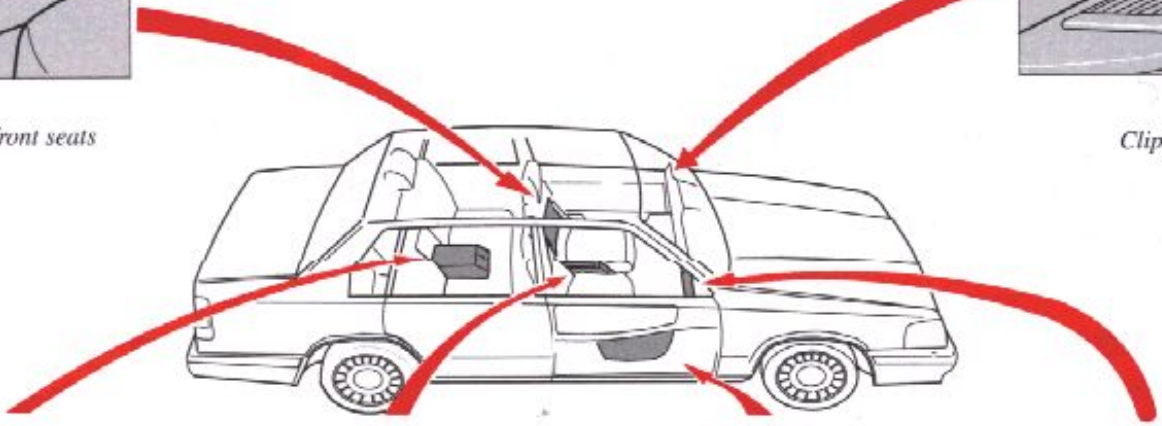
Withdraw key in vertical position

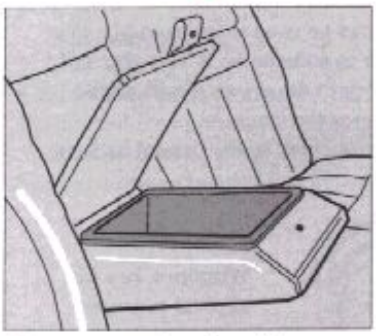
pg. 2:8 Storage spaces

Storage spaces

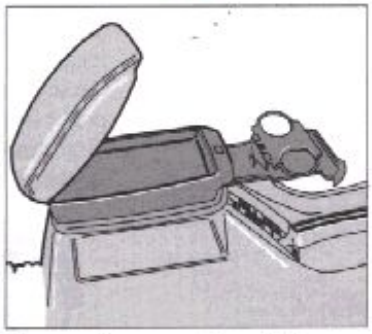
Pocket on rear of front seats

Clip for parking stub

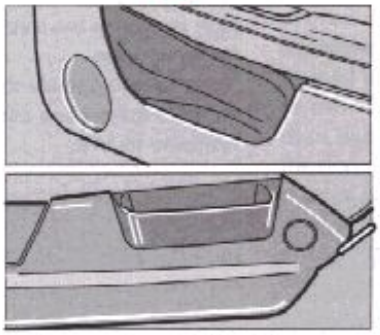




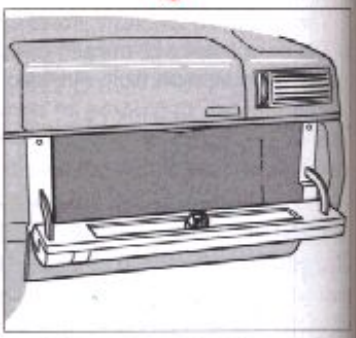
Between rear seats (certain models)



Between front seats/mug holder



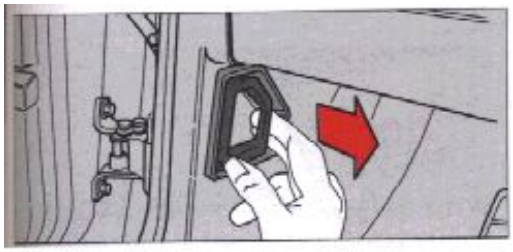
Compartment in front doors



Glove compartment

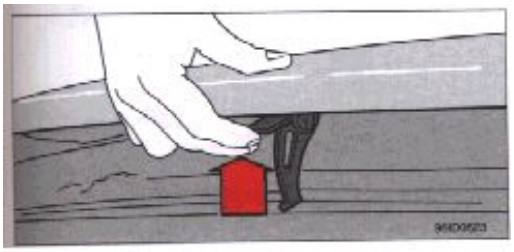
WARNING!
Packages on the rear window shelf can obscure vision and may become dangerous projectiles in the event of a sudden stop or an accident.

pg. 2:9 Hood



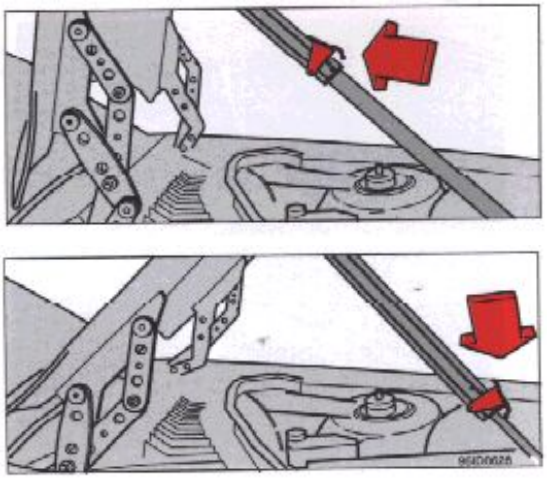
To open the hood

Pull the release handle (located under the left side of the dash).



Lift the hood slightly, insert a hand under the center line of the hood and depress the safety catch handle. Open the hood.

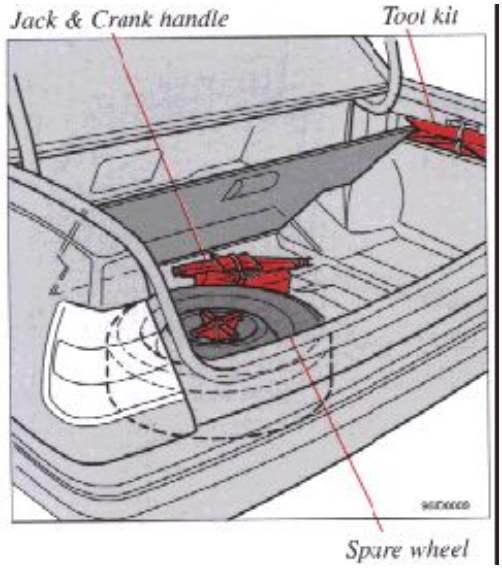
WARNING!
Check that the hood locks properly when closed.



The hood opens normally to an angle of approximately 55°. To open it a completely vertical position, press both red catches upward as shown in the illustration. Make sure that the catches return to their normal position. When closing the hood, lift it slightly first and then press the catches downward.

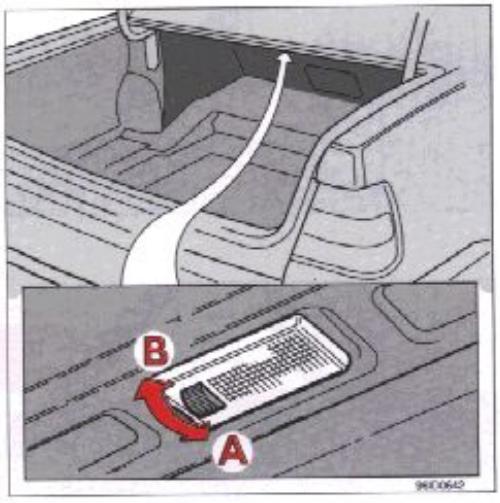
Ensure adequate clearance in low-roof garages to avoid damaging the hood.

pg. 2:10 Trunk light, Spare tire (sedan)



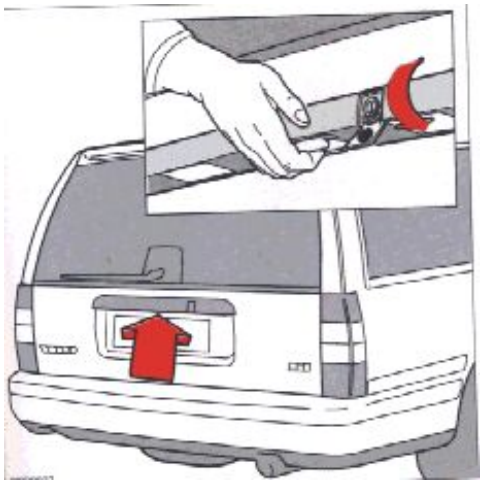
NOTE: See pages 6:2-6:3 for information on how the jack should be used.

Trunk light



A Light always off.
B Light is on when trunk lid is opened.

pg. 2:11 Tailgate, Child safety lock (wagon)



Opening the tailgate

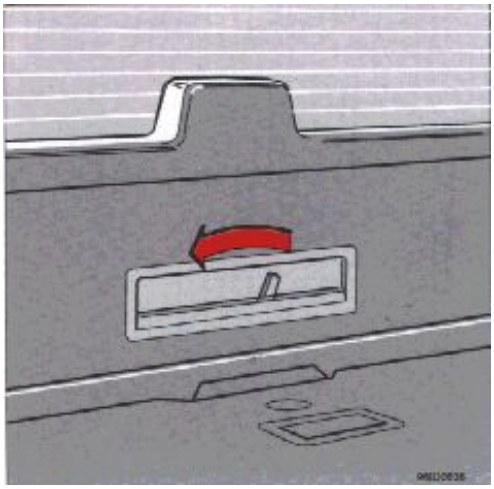
Tailgate

The tailgate is opened by pressing up the catch on the handle.

To unlock - turn the key clockwise and allow it to spring back.

To lock - turn the key counter-clockwise and allow it to spring back.

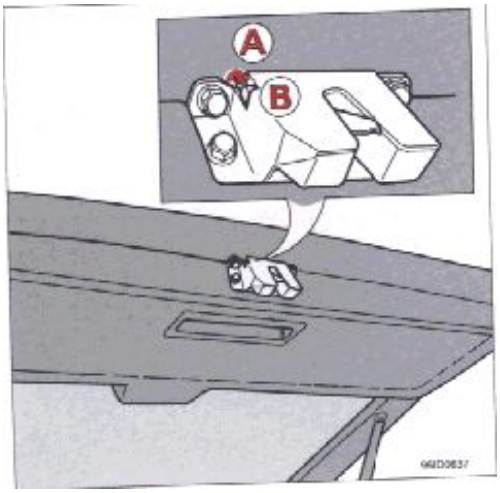
NOTE: The tailgate is also unlocked and locked at the same time as the driver's door.



Opening from the inside

To open the tailgate from the inside of the vehicle move the lever to the left and push outwards. The handle can be used to pull the tailgate closed from the inside (see illustration).

WARNING! Do not drive with tailgate open! Poisonous exhaust gases may enter via the open tailgate.



Location and setting of child safety lock

Child Safety lock

The tailgate incorporates a safety catch which is located to the side of the lock.
A the tailgate functions normally
B the tailgate cannot be opened from the inside.

WARNING! Remember, in the event of an accident, the tailgate cannot be opened from the inside when the safety catch is in position B.

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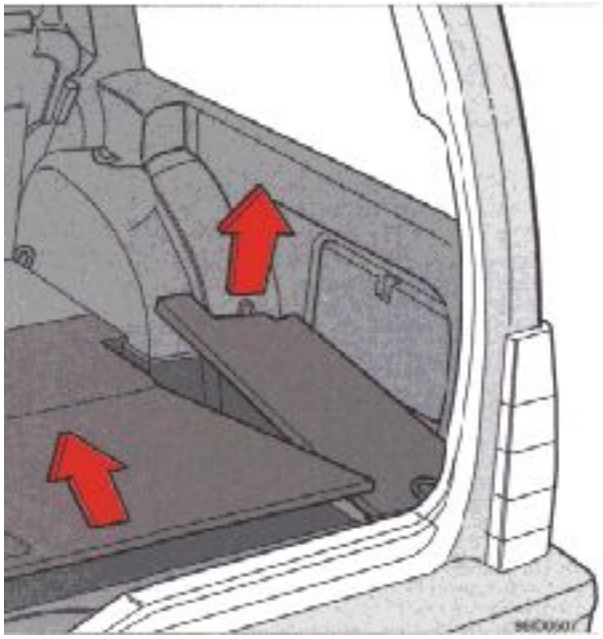
pg. 2:12 Concealed storage bins, Rear seat head restraints (wagon)



Opening the small storage bin

Concealed storage bins

There are three storage bins under the floor of the cargo space; the largest bin can be locked with a key.

The lid of the largest bin is hinged in the middle (not useable if the auxiliary child seat is installed).

Folding rear seat; increasing the cargo space

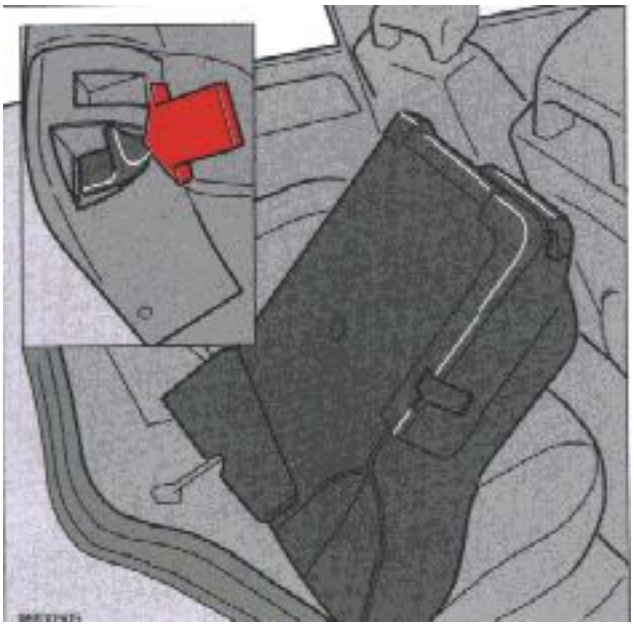
The center head restraint should be lowered manually before folding down the rear seat backrest. The outboard head restraints retract automatically when the backrest is folded down.
The rear seat head restraints can be raised by pulling straight up or lowered by grasping the restraint, pulling it slightly forward and pushing down.

pg. 2:13 Folding rear seat (wagon)

Seat cushion strap

The rear seat is split 60/40 so that each section can be folded independently.

Straighten front backrests if they are tilted too far to the rear.
Pull the strap to lift the seat cushion and swing the cushion up and toward the back of the front seats.
Move the backrest release lever rearward and fold the backrest down.
When the backrest is raised, the outboard head restraints return to their normal position and must be raised manually if required.
The backrest must lock into place. The red lock indicator will not be visible if the seat has locked into place incorrectly.



Release lever - backrest

CAUTION: Check that latches under seat cushions engage holes at top edge of backrest.
Seat belts must be correctly positioned as seat is returned to normal position.

Latches fit into holes

WARNING! When the rear seat is folded down, do not place heavy objects against the backs of the front seat. This places a severe strain on the folded down backrest of the rear seat. Be sure to secure cargo. Cargo must not be stacked higher than the top of seatbacks. This will reduce the possibility of luggage, etc. becoming projectiles during sudden maneuvers, rapid braking or an accident. The red lock indicator is visible when the backrest is NOT locked in position and not visible when the backrest is correctly locked in place. When the backrest is in the upright position, it must always be correctly locked in place.

pg. 2:14 Removing seat cushions, Tool box, Securing cargo (wagon)

Lift the seat cushion part way and remove the seat.

Removing the seat cushions

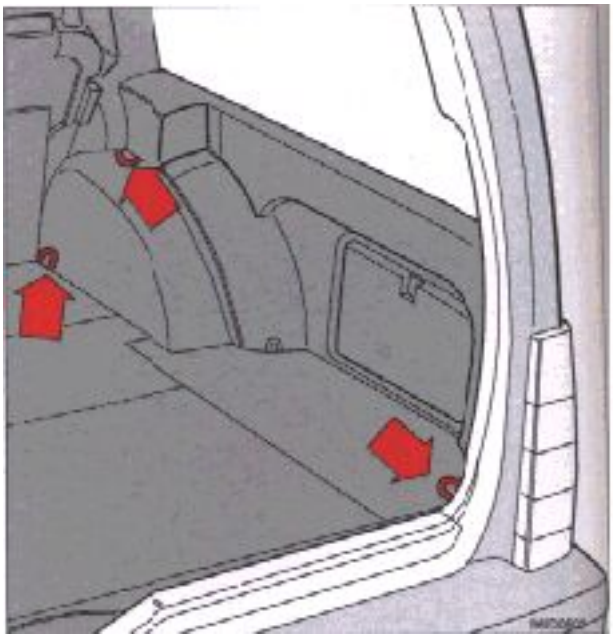
The seat cushion can be easily removed to provide a slightly larger cargo storage area. To remove, lift seat cushion out of the hinges.

Tool box

Tool box

The tool box can be released by turning the catch.

WARNING! Do not place extremely heavy articles the front seats, as the backrest which is folded down is then placed under severe strain.
Be sure to secure cargo. Hard and sharp articles could otherwise damage the frontseat backrest and/or cause injury to passengers in the event of rapid braking or a collision.

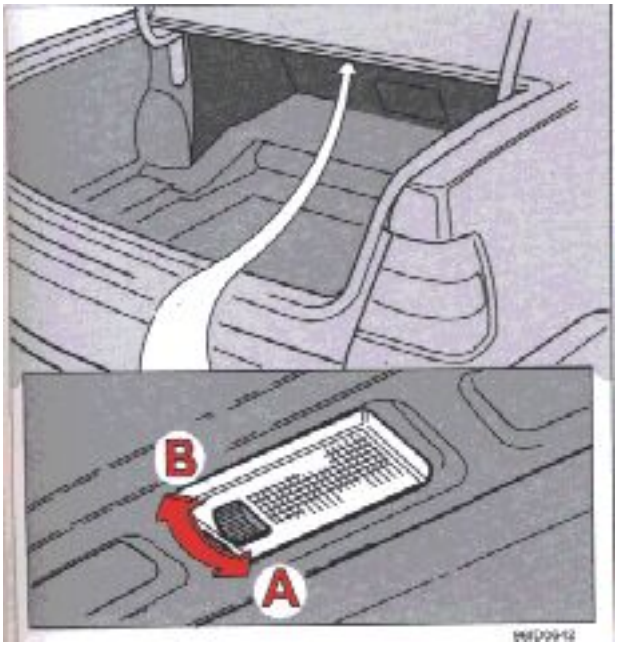


Always secure cargo

Securing cargo

As a safety precaution, the cargo space is equipped with six eyelets to which straps can be attached to secure luggage.

WARNING! The eyelets are not to be used as passenger restraints. See page 3:9. Unless the wagon is equipped with Volvo's auxiliary seat for children (option), passengers should not ride in this section of the car.
pg. 2:15 Cargo space lighting, Spare tire and jack (wagon)

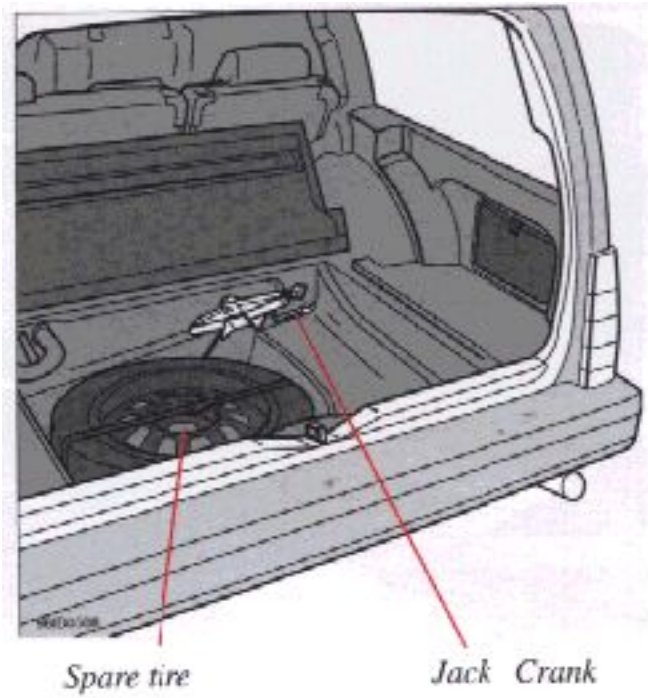


Switch positions

Cargo space lighting

There is an extra courtesy light at the rear of the cargo space.

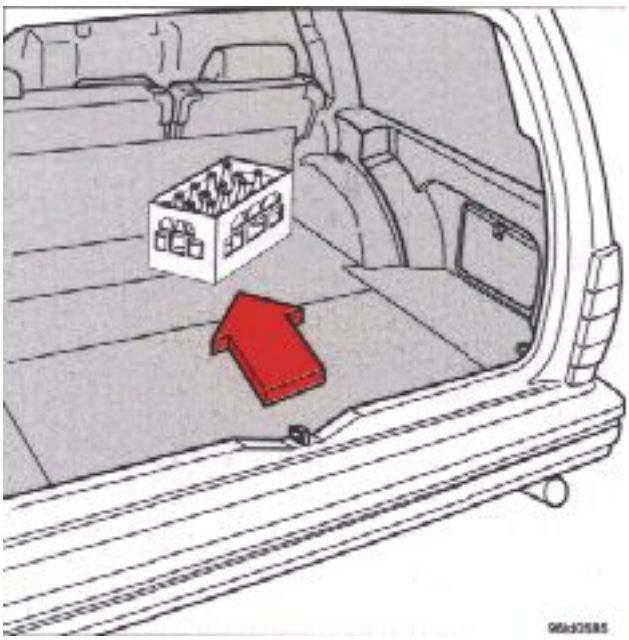
1 Light comes on when the tailgate is opened
2 The light is always OFF
3 The light is always ON



Spare tire and jack
The spare tire and the jack are located beneath the floor mat in the large storage bin. Always secure the spare tire and the jack to prevent them from rattling.

NOTE: See pages 6:2-6:3 for information on how the jack should be used.

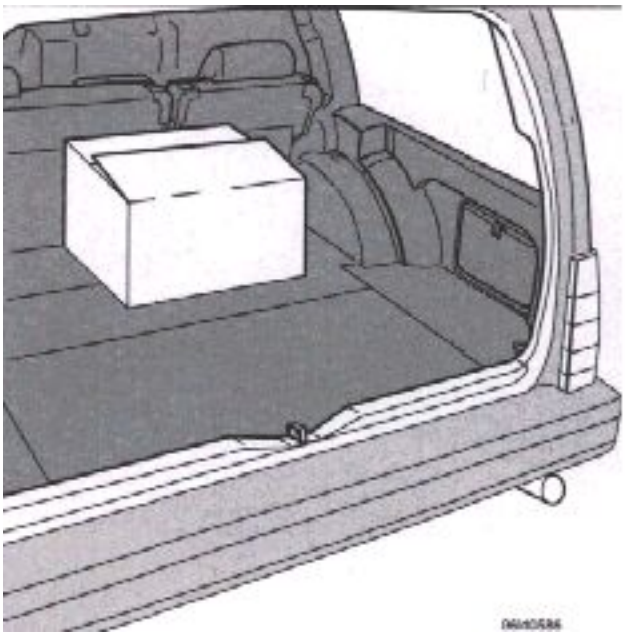
pg. 2:16 Cargo space (wagon), loading



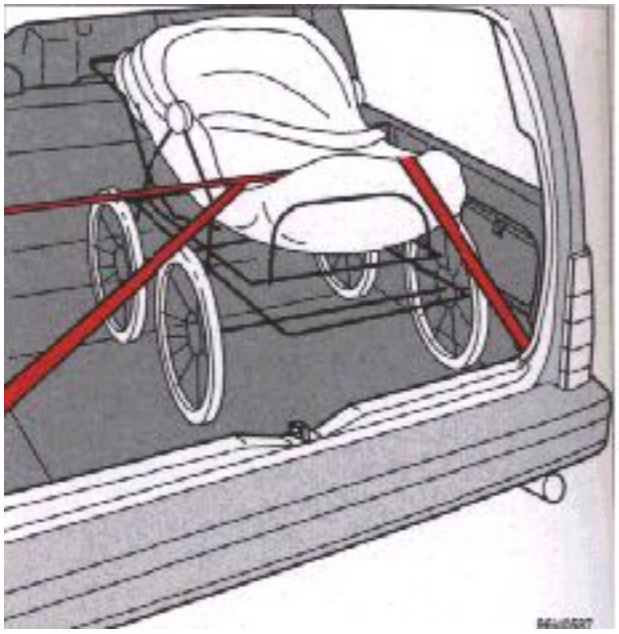
Load the cargo against the backrest

Loading in cargo space

Seat belts and airbags help give driver and passengers good protection, especially in head-on collisions. However, there is also a risk of injury from behind. When loading the car, remember that objects not properly loaded and secured may move forward in collisions or when braking suddenly, causing injury. Remember that a 44 lbs. object weighs the equivalent of 2,200 lbs in a head-on collision at 30 mph.



Load both sections of the backrest

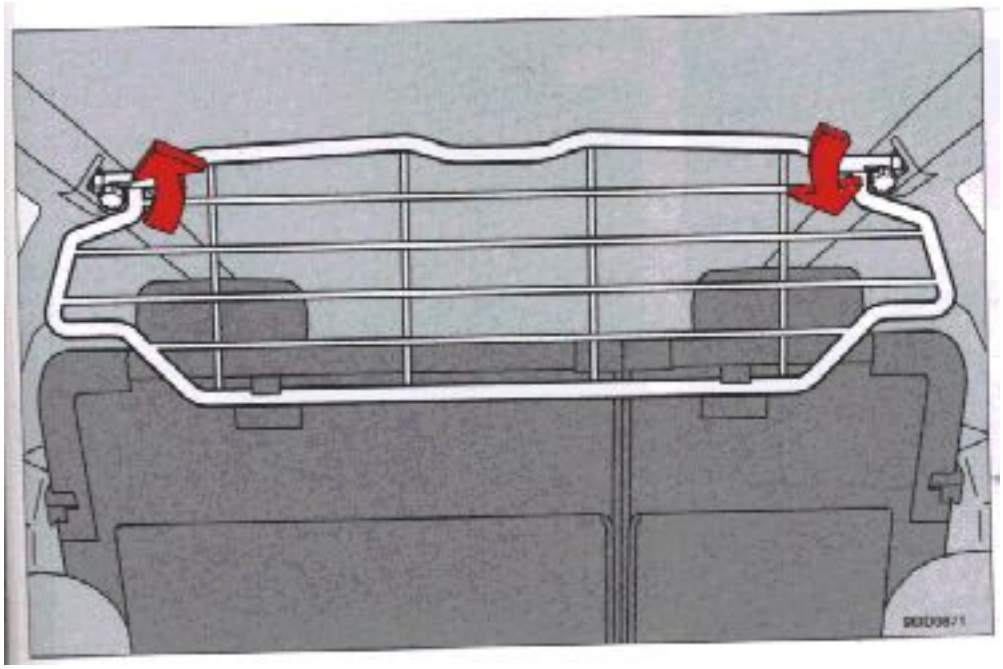


Tie down the cargo

Remember the following when loading the car:

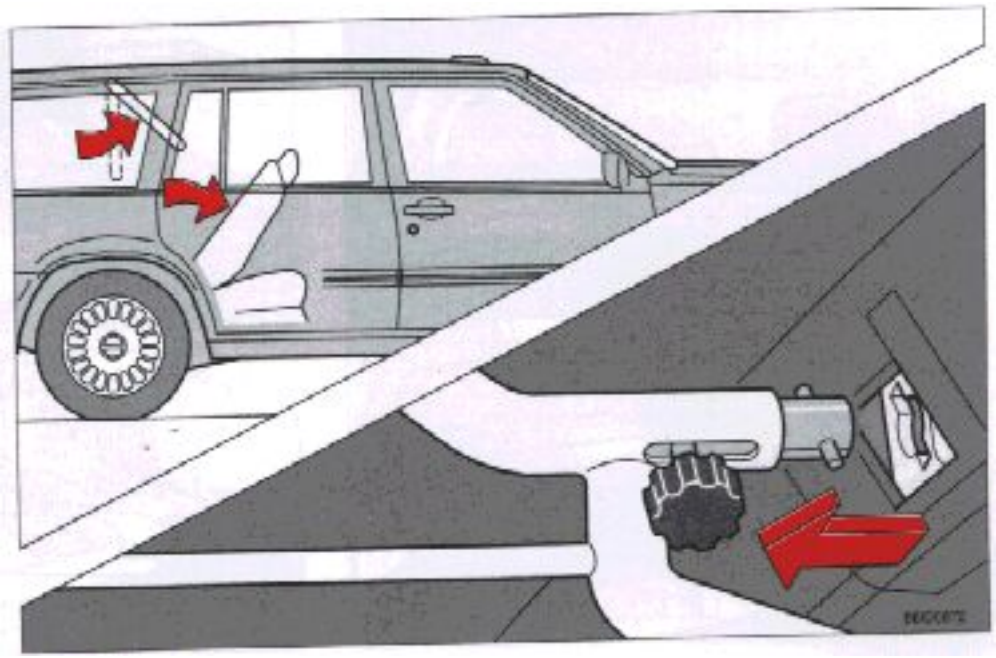
- Load the cargo against the backrest.
- Load heavy cargo as low down as possible.
- Load wide cargo on either side of the rear seat split.
- Secure the cargo with cargo straps through the eyelets in the cargo space.
- If nobody is sitting in the rear seat reinforce the backrest by fastening the rear seat belts.
- Never load cargo above the backrest without a cargo net.

pg. 2:17 Cargo Net (Wagon)



Cargo net

Your car can be fitted with a cargo net as an optional extra. The cargo net helps prevent cargo and animals from being thrown forward if the vehicle stops suddenly, or is involved in an accident. The cargo net can be folded up when not in use.



Cargo net and the auxiliary child seat

WARNING! If your car is equipped with an auxiliary child seat in the luggage compartment, the cargo net must be removed before using the child seat. Otherwise, in the event of a sudden stop or accident, the child could be injured and the net could hinder rapid access to the luggage compartment.

When removing the cargo net:

- Fold forward the rear seat backrest
- Lean the cargo net forwards
- Disconnect the two knobs on the cargo net and push them towards the center
- Remove the cargo net
- When installing the cargo net, reverse this procedure

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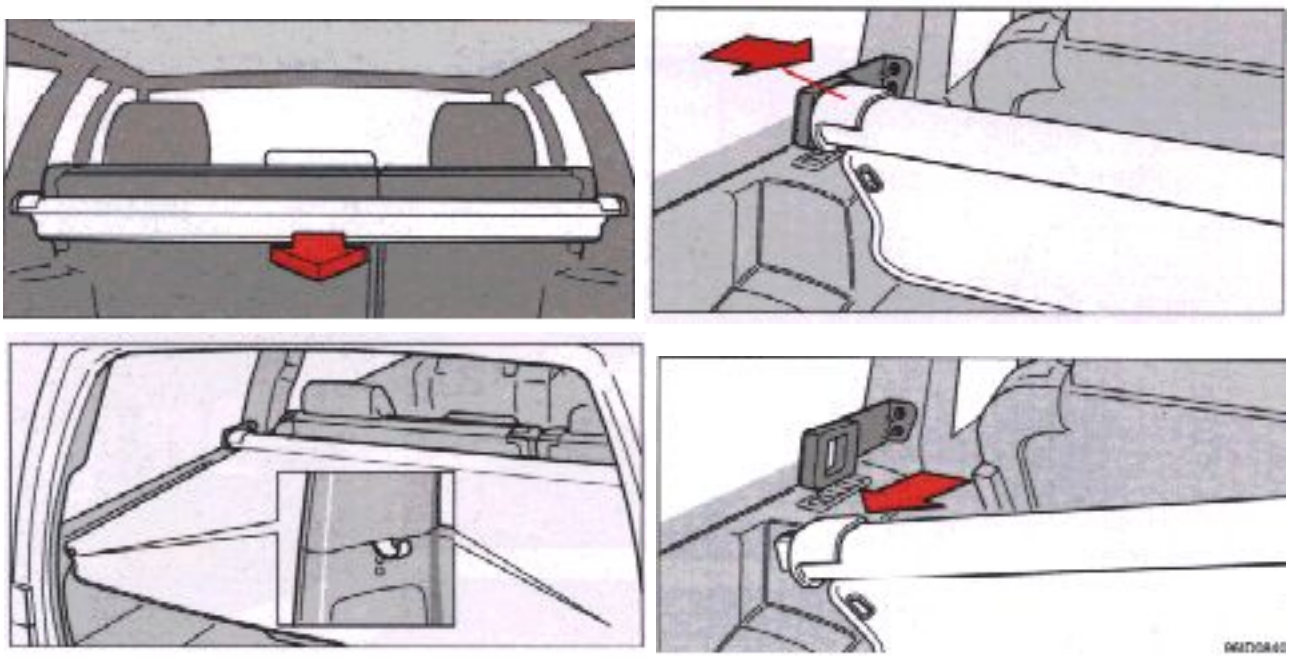
pg. 2:18 Luggage cover (Wagon)



Luggage cover

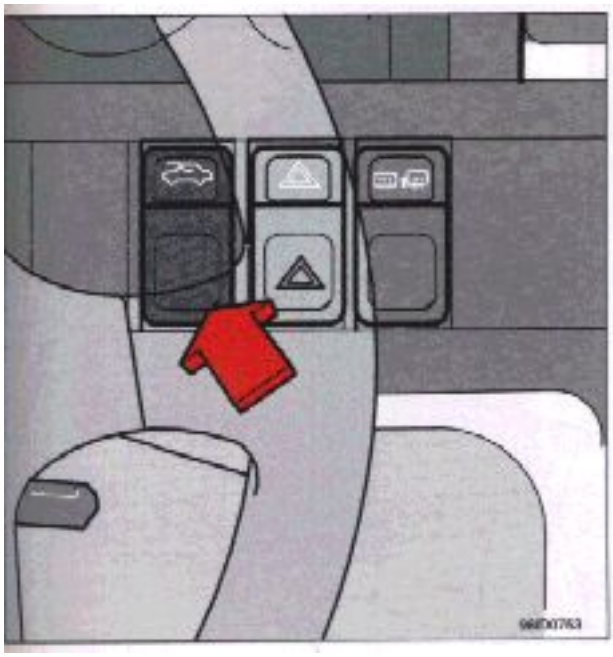
Your car can be fitted with a luggage cover as an optional extra. The pull-out luggage cover is like a blind behind the rear seat. Pull it out and attach it at the rear of the luggage compartment to conceal the cargo and keep it out of sight.
(See picture.)

Removing luggage cover
(see illustration above)

If, as a result of the size of the cargo, you want to remove the luggage cover temporarily:

- Push the end of the luggage cover towards the middle
- Pull the luggage cover backwards
- When installing, reverse this procedure

pg. 2:19 Sun roof/sun shade (certain models)



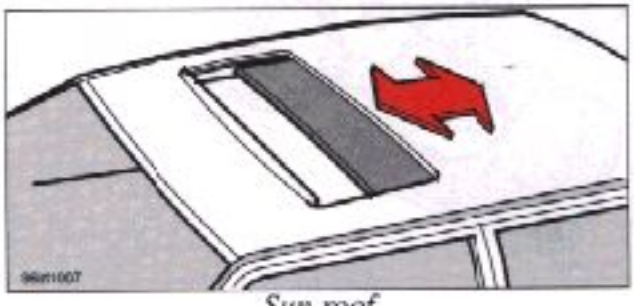
Electrically-operated sun roof

The switch for operating the sun roof is located on the instrument panel. The starting (ignition) key must first be turned to the drive position.

- To slide open the sun roof : press the lower section of the switch.
- To close the sun-roof : press the upper section of the switch until the sun roof has closed completely .
- To open the rear edge of the sun roof (ventilation position) : press the upper section of the switch.

Press the lower section of the switch to return the sun roof to the closed position.

Ventilation position

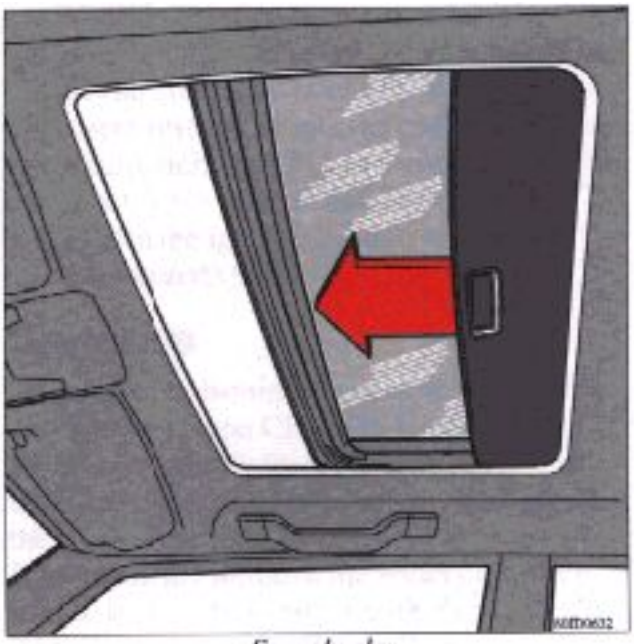


Sun roof

Sun shade

- The sun shade will open automatically with the sun roof when the sun roof slides back (not when the sun roof is opened to the ventilation position).
- The sun shade can also be opened manually even if the sun roof is closed.
- The sun shade will not close automatically with the sun roof. It must be closed manually.

WARNING! (SUN ROOF): The sun roof must never be obstructed in any way when in operation.



Sun shade

NOTE:

- The electrically-operated sun roof has an overload protecting circuit breaker which is activated when an object blocks the sun roof. Should this occur, remove the object and wait 20 seconds for the circuit breaker to reset. The sun roof should then function normally.
- To help alleviate "rumbling" wind noise when the sun roof is open, adjust the position slightly (open/close).

pg. 2:20 Long load storage (sedan)

Emergency sun roof operation

No current to sun roof motor
The overload circuit breaker (no. 26 in passenger compartment fuse box) has been activated.
Wait approx. 20 seconds for the circuit breaker to cool down.

Long load storage

In the panel behind the rear seat is a door which makes it possible to carry long loads such as skis, etc.

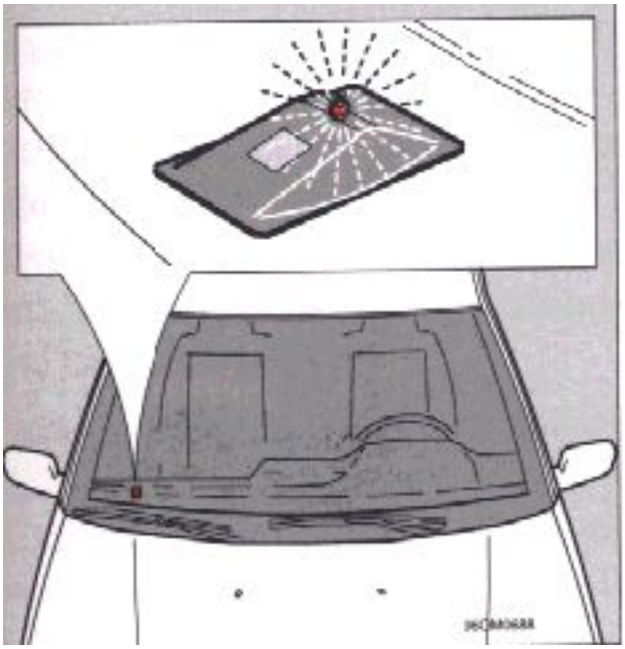
WARNING!
Cover sharp edges on load to help prevent injury to occupants. Secure load to help prevent shifting during sudden stops.

Protective covers (for skis) should also be used to avoid soiling or tearing the upholstery. Please note that the flap in the rear seat is only intended for light loads such as skis, carpets, etc.

Max. length of load 6 1/2 ft = 2m.
Max. weight of load 33 lbs = 15 kg.

WARNING!
Always turn engine off and apply parking brake when loading/unloading the vehicle. Place transmission selector in P (PARK) position to help prevent inadvertent movement of selector.

pg. 2:21 Alarm



Alarm LED

Alarm

To lock : Press the large button (number 1 in the illustration) once to lock all doors and trunk/tailgate and arm the security system. Lamps will flash to acknowledge that the vehicle is locked and the security system is armed.
To unlock : Press the small button (number 2 in the illustration) *once* to unlock the driver's door only and disarm the security system.
Press the button again (within 10 seconds) to unlock all doors and trunk/tailgate.

Emergency function

To activate the " *panic alarm* " function :
Press and hold button 1 for at least three seconds. The car's lights will flash and an alarm will sound for approximately 30 seconds.
This function can be switched off at any time by pressing either of the buttons.

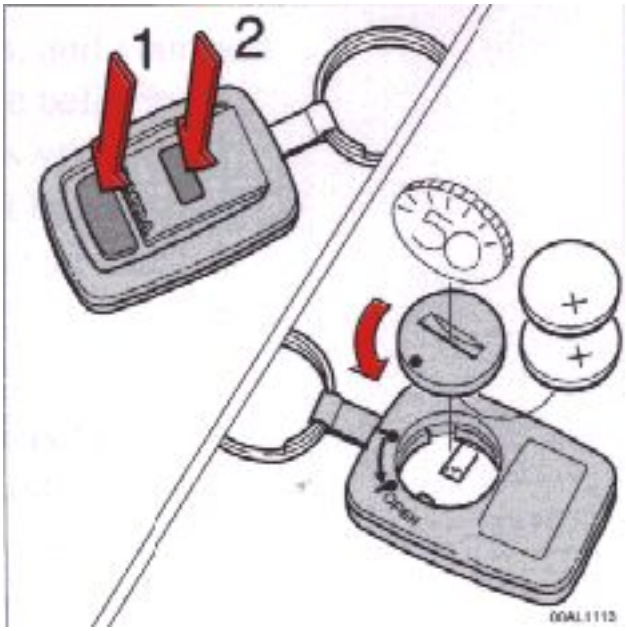
Programming a transmitter

New transmitters (max. 4) must be programmed to function with your alarm system.
To do this:

- Make sure all doors, hood and trunk/tailgate are closed.
- Turn the ignition on and off 5 times within 10 seconds. On the fifth try, leave the ignition on.
- Press either button on the transmitter.

NOTE: The first transmitter must be programmed within 15 seconds, the others within 10 second intervals. When the alarm system accepts the codes from each transmitter, the LED on the dash will glow steadily for several seconds.

- Switch the ignition off and test the transmitter(s).



Button 1: lock, Button 2: unlock

Batteries

The remote transmitter is powered by 2 three-volt batteries, type CR 1220. If three short signals are audible from the transmitter each time you lock/unlock the car, this indicates that the batteries are weak. Replacement : Remove the battery cover on the back of the transmitter with a coin. Replace the batteries. Reinstall the cover, making sure it is secured tightly to help protect the transmitter.

NOTE: If only the driver's door is unlocked, the lock will automatically reengage (re-lock) and the alarm will reset after 30 seconds unless the door has been opened.

If all of the doors were unlocked (by pushing button 2 twice within 10 seconds) and no door/trunk/tailgate was opened within two minutes, all locks will reengage and the alarm will reset. This is to prevent the vehicle from being left unlocked if the unlock button is inadvertently pressed.

The lock/unlock and alarm features can also be utilized by using the keys. See section: Keys, Doors and Locks on page 2:2.

If the alarm LED glows continuously for 5 seconds, this indicates a fault in the system or that a door is not properly closed.

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3:13 Reporting Safety Defects

Despite our strongest recommendations, and your best intentions, not wearing a seat belt is like believing "It'll never happen to me!". Volvo urges you and all adult occupants of your car to wear seat belts and ensure that children are properly restrained, using an infant, car or booster seat determined by age, weight and height.
Fact: In every state and province, some type of child-restraint legislation has been passed. Additionally, most states and provinces have already made it mandatory for occupants of a car to use seat belts.
So, urging you to "buckle up" is not just our recommendation - legislation in your state or province may mandate seat belt usage. The few seconds it takes to buckle up may one day allow you to say, "It's a good thing I was wearing my seat belt".

pg. 3:2 Seat belts

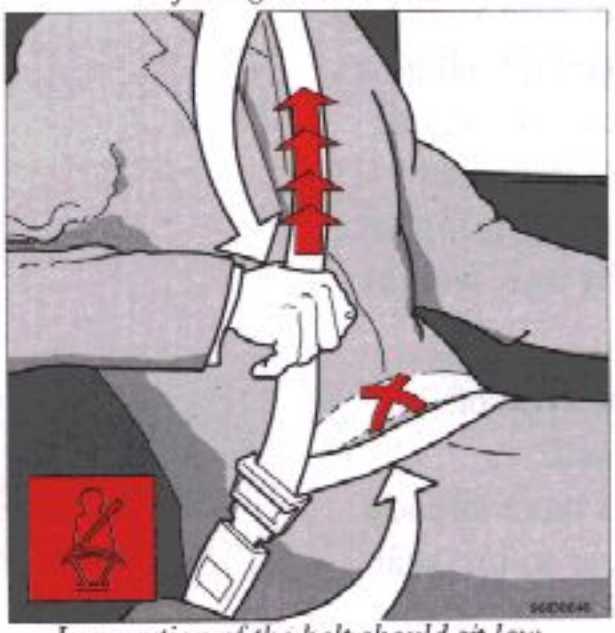
Seat belts
Always fasten the seat belts before you drive or ride.
Two lights above the rear view mirror will be illuminated for 4-8 seconds after the starting (ignition) key is turned to the driving position. One light is located in the instrument panel and one in the console between the front seats.
A chime will sound at the same time if the driver has not fastened his seat belt. The rear seats are provided with self-retracting inertia reel belts. The front seats are provided with single roller belts with tensioners.

To buckle:

Pull the belt out far enough to insert the latch plate into the receptacle (buckle for rear seats) until a distinct snapping sound is heard. The seat belt retractor is normally "unlocked" and you can move freely, provided that the shoulder belt is not pulled out too far. The retractor will lock up as follows:

- if the belt is pulled out rapidly
- during braking and acceleration
- if the vehicle is leaning excessively
- when driving in turns

Adjusting shoulder belt



Lap portion of the belt should sit low

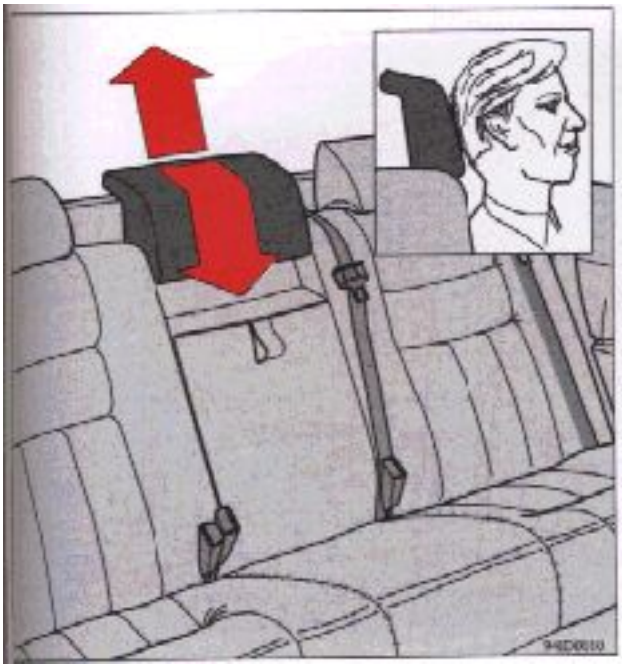
In order for the seat belt to provide maximum protection in the event of an accident, it must be worn correctly. When wearing remember:

- The belt should not be twisted or turned.
- The lap belt must be positioned low on the hips (not pressing against the abdomen). Make sure that the shoulder belt is rolled up into its retractor and that the shoulder and lap belts are taut.

Before exiting the car, check that the seat belt retracts fully after being unbuckled. If necessary, guide the belt back into the retractor slot.

WARNING! Any device used to induce slack into the shoulder belt portion of the three-point belt system will have a detrimental effect on the amount of protection available to you in the event of a collision. The seat back should not be tilted too far back. The shoulder belt must be taut in order to function properly.

pg. 3:3 Seat belts



Center head restraint
The center head restraint can be adjusted according to the passenger's height. The restraint should be carefully adjusted to support the occupant's head. The head restraint can be raised by pulling straight up or lowered by grasping the restraint, pulling it slightly forward and pushing down.

During pregnancy
Pregnant women should always wear seat belts. Remember that the belt should always be positioned in such a way as to avoid any possible pressure on the abdomen. The lap portion of the belt should be

located low, as shown in the above illustration.

WARNING! Never use a seat belt for more than one occupant. Never wear the shoulder portion of the belt under the arm, behind the back or otherwise out of position. Such use could cause injury in event of accident. As the seat belts lose much of their strength when exposed to violent stretching, they should be replaced after any collision, even though they may appear to be undamaged. Never repair the belt on your own; have this done by an authorized Volvo retailer only.

NOTE:
Legislation in your state or province may mandate seat belt usage.

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pg. 3:4 Volvo SRS

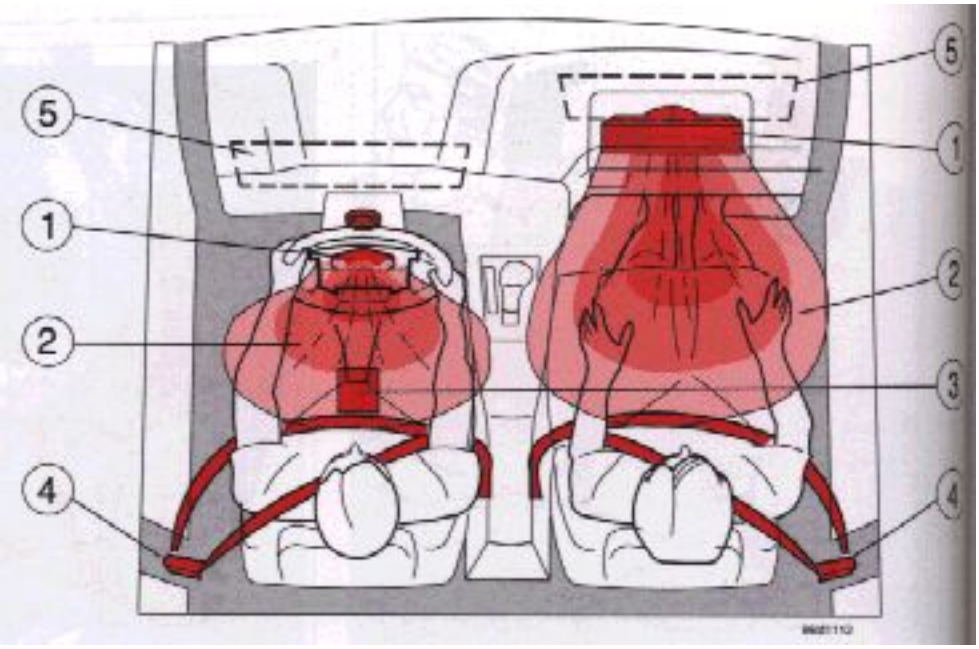
Passenger side SRS hatch

As an enhancement to the three-point seat belt system, your Volvo is equipped with a Supplemental Restraint System (SRS). The Volvo SRS consists of airbags (2) and knee bolsters (5) on both the driver's and passenger's sides and seat belt tensioners in both front door pillars (4). The system is designed to supplement the protection provided by the three-point seat belt system.

The SRS system is indicated by the "SRS" embossed on the steering wheel pad and above the glove compartment, the knee bolsters beneath the steering column and the glove compartment and decals on both sun visors and on the far right side of the dash.

The airbags are folded and located in the center of the steering wheel and above the glove compartment. They are designed to deploy during certain frontal-angular collisions, impacts, or decelerations, depending on the crash severity, angle, speed and object impacted. Both air bags and seat belt tensioners will deploy, even if the passenger seat is not occupied.

WARNING!
As its name implies, SRS is designed to be a SUPPLEMENT to - not a replacement for - the three-point belt system. For maximum protection, wear seat belts at all times. Be aware that no system can prevent all possible injuries that may occur in an accident.



The airbag system includes gas generators (1) surrounded by the airbags (2) and front seat belt tensioners for both of the front seats (4). To deploy the system, the sensor (3) activates the gas generators causing the airbags to be inflated with nitrogen gas. As the movement of the seat's occupants compresses the airbags, some of the gas is expelled at a controlled rate to provide better cushioning. Both seat belt tensioners also deploy, minimizing any seat belt slack.

The entire process, including inflation and deflation of the airbags, takes approximately two-tenths of a second.

WARNING!
When installing any optional equipment make sure that the SRS system is not damaged. Do not attempt to service any component of the SRS yourself. Attempting to do so may result in serious personal injury. If a problem arises, take your car to the nearest authorized Volvo Retailer for inspection as soon as possible.

pg. 3:5 Volvo SRS

A self-diagnostic system incorporated in the sensor monitors the SRS. This system does not, however, monitor the SIPS airbags. If a fault is detected, the "SRS" warning light will illuminate. The light is included in the warning/indicator light cluster in the instrument panel. Normally, the SRS warning lamp should light up when the ignition is switched on and should go out after 10 seconds or when the engine is started. Check that this light is functioning properly every time the car is started.

The following items are monitored by all the self-diagnostic system:

- Sensor unit
- Cable harness
- Gas generator ignitors

WARNING! Never drive an SRS equipped car with your hands on the steering wheel pad/airbag housing. No objects, accessory equipment or stickers may be placed on, attached to or installed near the SRS cover in the center of the steering wheel, the SRS cover above the glove compartment or the area affected by the airbag deployment.
If the SRS warning light stays on after the engine has started or if it comes on while you are driving, drive the car to the nearest authorized Volvo retailer for inspection as soon as possible.

The above is a sample of the label found on all seat belts equipped with tensioners, located on the front seat belts near the lower anchorage point.

The above is a sample of the decals which can be found on both front door pillars.

There is no maintenance to perform on the SRS yourself. The only periodic maintenance recommended on the SRS is that the air bag modules and front seat belts (including tensioners) should be replaced approximately every ten years and that the other components in the system (wiring, connectors, etc.)

should also be inspected at this time. The SRS decal on your car shows the month and year servicing is due. This service must be performed by an authorized Volvo retailer. Should you have any questions about the SRS system, please contact your authorized Volvo Retailer or Volvo Customer Support.

pg. 3:6 Volvo SRS

WARNING
This car is equipped with a full frontal Supplemental Restraint System (SRS) with AIRBAG in front of the driver and front passenger.
*ALL OCCUPANTS MUST BE PROPERLY RESTRAINED, ADULTS USING SEAT-BELTS AND CHILDREN USING CHILD RESTRAINT SYSTEMS.

*DO NOT INSTALL AND USE ANY CHILD RESTRAINTS IN THE FRONT SEAT.
We also recommend that children who have outgrown child restraint systems in the rear seat with the seat-belt properly fastened. The safest place in the car for children is in the rear seat.
FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY TO THE VEHICLE OCCUPANTS IN AN ACCIDENT.
For further information, see owner's manual.
VOLVO

SRS texts at far right on instrument panel

CAUTION
TO AVOID SERIOUS INJURY:
FOR MAXIMUM SAFETY PROTECTION IN ALL TYPES OF CRASHES, YOU MUST ALWAYS WEAR YOU SAFETY BELT.
DO NOT INSTALL REARWARD-FACING CHILD SEATS IN ANY FRONT PASSENGER SEAT POSITION.
DO NOT SIT OR LEAN UNNECESSARILY CLOSE TO THE AIR BAG.
DO NOT PLACE ANY OBJECTS OVER THE AIR BAG OR BETWEEN THE AIR BAG AND YOURSELF.
SEE THE OWNER'S MANUAL FOR FURTHER INFORMATION AND EXPLANATIONS.
VOLVO

SRS texts on inside of both sun visors

AIR BAG
SEE OTHER SIDE

SRS texts on outside of both sun visors

Passenger side air bag

WARNING! Do not use child safety seats or child boosters cushions/backrests in the front passenger's seat. We also recommend that children who have outgrown these devices sit in the rear seat with the seat belt properly fastened.

NOTE: Deployment of SRS components occurs only one time during an accident. In a collision where deployment occurs, the air bags and seat belt tensioners activate. Some noise occurs and a small amount of powder is released. The release of the powder may appear as smoke-like matter. This is a normal characteristic and does not indicate fire.

WARNING!

- Occupants in the front passenger's seat must never sit on the edge of the seat, sit leaning toward the instrument panel or otherwise sit out of position. The occupant's back must be as upright as comfort allows and be against the seat back with the seat properly fastened.
- Feet must be on the floor, e.g. not on the dash, seat or out of the window.
- Children must never be allowed to stand in front of the passenger seat.
- No objects or accessory equipment, e.g. dash covers, may be placed on, attached to or installed near the SRS hatch (the area above the glove compartment) or the area affected by air bag deployment (see illustration).
- There should be no loose articles, e.g. coffee cups, on the floor, seat or dash area.
- Never try to open the SRS cover on the steering wheel or the passenger side SRS hatch. This should only be done by an authorized Volvo service technician.
- Failure to follow these instructions can result in injury to the vehicle occupants in an accident.

pg. 3:7 Volvo SRS

NOTE: The information on this page does not pertain to the Side Impact protection System airbags.

When are the airbags deployed?

The SRS system is designed to deploy during certain frontal or front-angular collisions, impacts, or decelerations, depending in the crash severity, angle, speed, and object impacted. The SRS sensor is designed to react to both the impact of the collision and the inertial forces generated by it and to determine if the intensity of the collision is sufficient for the airbags to be deployed.

NOTE: The SRS system activates only once in a collision.

If the airbags have been deployed, we recommend the following:
- Have the car towed to an authorized Volvo retailer. Even if it can be driven after an accident we do not recommend driving the car with deployed airbags.
- Have an authorized Volvo retailer replace the SRS system components.
- Use only new, Genuine Volvo Parts when replacing SRS components (airbags, seat belts, tensioners, etc.)

When are the airbags NOT deployed?

Not all frontal collisions activate the SRS system. If the collision involves a non-rigid object (e.g., a snow drift or bush), or a rigid, fixed object at a low speed, the SRS system will not necessarily deploy. Airbags do not normally deploy in a side impact collision, in a collision from the rear or in a rollover situation. The amount of damage to the bodywork does not reliably indicate if the airbags should have deployed or not.

Can the airbags deploy accidentally?

The SRS system is designed to deploy during certain frontal or front-angular collisions, impacts, or decelerations, depending on the crash severity, angle, speed and object impacted. The SRS system has its own diagnostic unit which continuously monitors and inspects the system. Make a habit of checking the SRS system warning light when starting and driving the car. Normally, this light will come on when the ignition is switched on and should go out after approximately 10 seconds or when the engine is started. If this light should stay on or come on while you are driving, drive the car to an authorized Volvo retailer for inspection as soon as possible.

Seat belts - the heart of the Volvo safety system

The heart of the Volvo safety system is the three-point seat belt! In order for the SRS system to provide the protection intended, seat belts must be worn at all times by everyone in the car. The SRS system is a supplement to the seat belts.

WARNING! If your car has been subjected to flood conditions (e.g. soaked carpeting/standing water on the floor of the vehicle) or if your car has become flood-damaged in any way, do not attempt to start the vehicle or put the key in the ignition before disconnecting the battery (see below). This may cause airbag deployment which could result in personal injury. Have the car towed to an authorized Volvo retailer for repairs.
Automatic transmission only:
Before attempting to tow the car, use the following procedure to override the shiftlock system to move the gear selector to the neutral position.

- Disconnect the battery
- Wait at least one minute
- Insert the key in the ignition and turn it to position 1
- Press firmly on the shiftlock override button (located near the base of the gear selector).
- While holding the override button down, move the gear selector from the park position.

pg. 3:8 Volvo Side Impact Protection System (SIPS) airbag

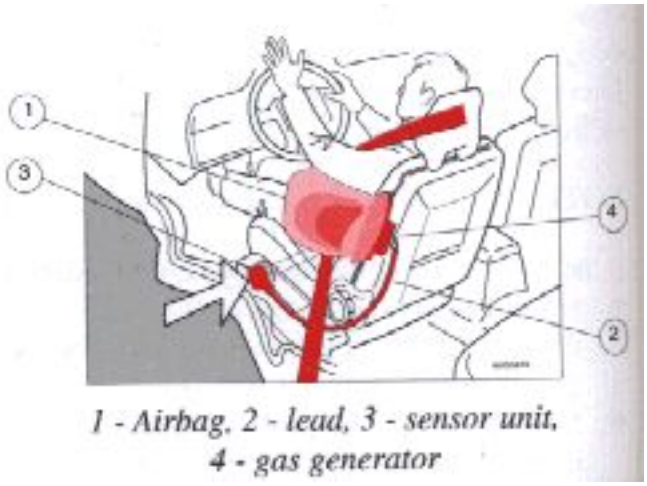
SIPS airbag (front seats only)

As an enhancement to the structural Side Impact Protection System built into your car, your car is also equipped with Side Impact Protection System (SIPS) airbags. The SIPS airbag system consists of airbag modules built into the sides of both front seat backrests (1), cables (2) from these modules to the mechanical sensor units (3) and gas generators (4).
The SIPS airbag system is designed to help increase occupant protection in the event of certain side impact collisions. The SIPS airbags are designed to deploy only during certain side-impact collisions, depending on the severity, angle, speed, and point of impact. The airbags are not designed to deploy in all side impact situations.

NOTE: SIPS airbag deployment (one airbag) occurs only on the side of the vehicle affected by the impact.

WARNING!

- The SIPS airbag system is a supplement to the Side Impact Protection System and the three-point seat belt system. It is not designed to deploy during collisions from the front or rear of the car or in rollover situations.
- Only Volvo approved seat covers may be used. The use of non-approved aftermarket seat covers may impede SIPS airbag deployment.
- No objects, accessory equipment or stickers may be placed on, attached to or installed near the SIPS airbag system or in the area affected by SIPS airbag deployment (see illustration to the right above).
- Never try to open or repair any components of the SIPS airbag system. This should only be done by an authorized Volvo service technician.
- For best protection from the SIPS airbag system, both front seat occupants should sit in an upright position with the seat belt properly fastened.



1 - Airbag, 2 - lead, 3 - sensor unit, 4 - gas generator

WARNING! Never drive with the airbags deployed. The fact that they hang out can impair the steering of your car. Other safety systems can also be damaged. The smoke and dust formed when the airbags are deployed can cause skin and irritation in the event of prolonged exposure.

* A SIPS airbag warning decal is located at the end of the instrument panel on the driver's side of the car.

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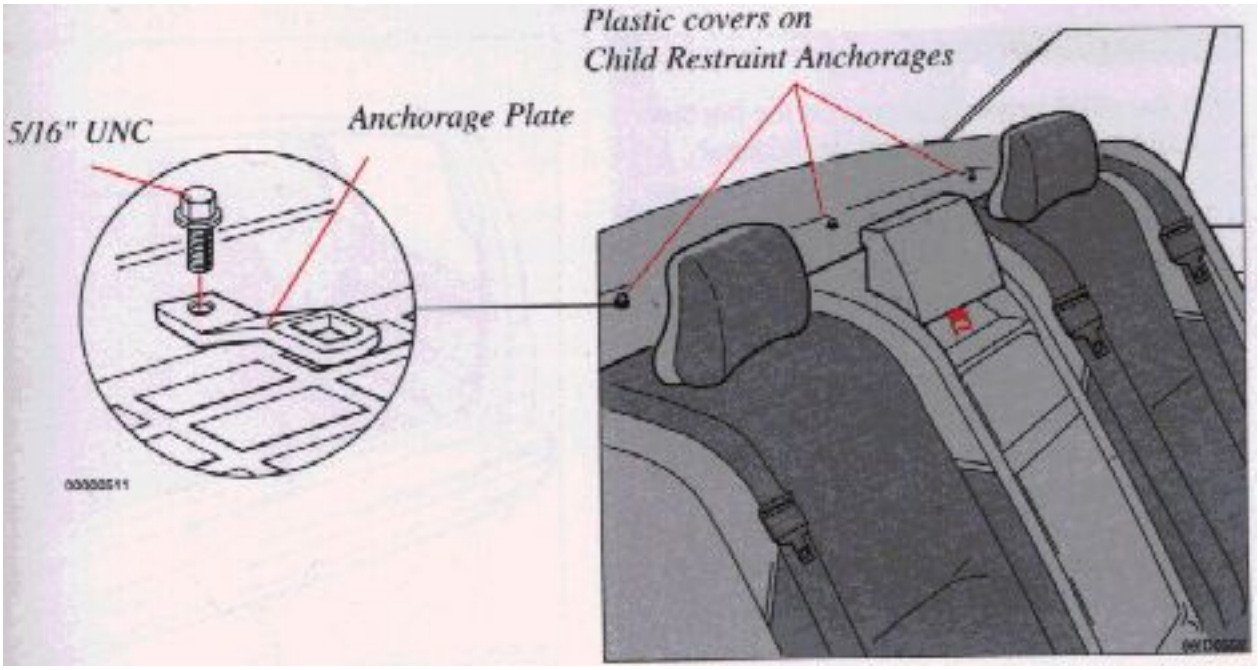
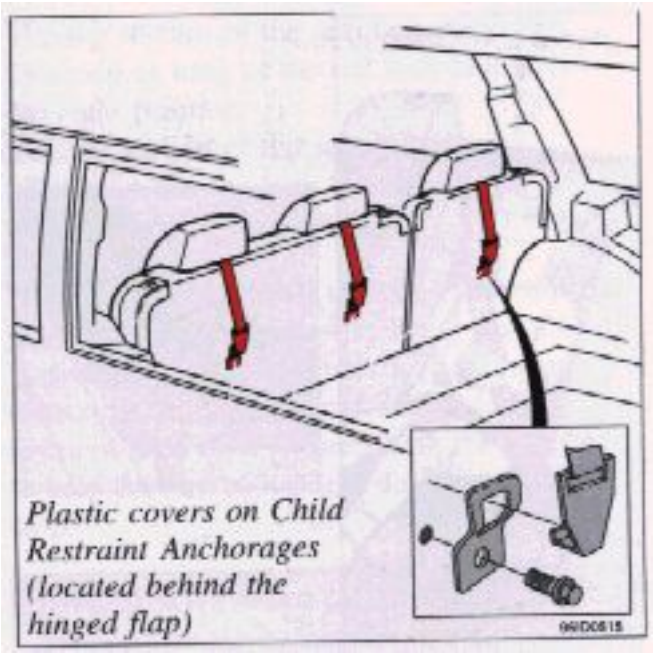
pg. 3:9 Child safety



Child Restraint Anchorages
Volvo cars are fitted with Child Restraint Top Tether Anchorages in the rear seat. There are three anchorages under the rear section of the car's rear window shelf on sedans and on the back rest on wagons. The backrest on wagons must be folded down slightly to reach the anchorages. When the car is delivered, the holes for these anchorages are covered by plastic covers. In cars designated for Canada, one top tether anchorage set will be in the glove box.

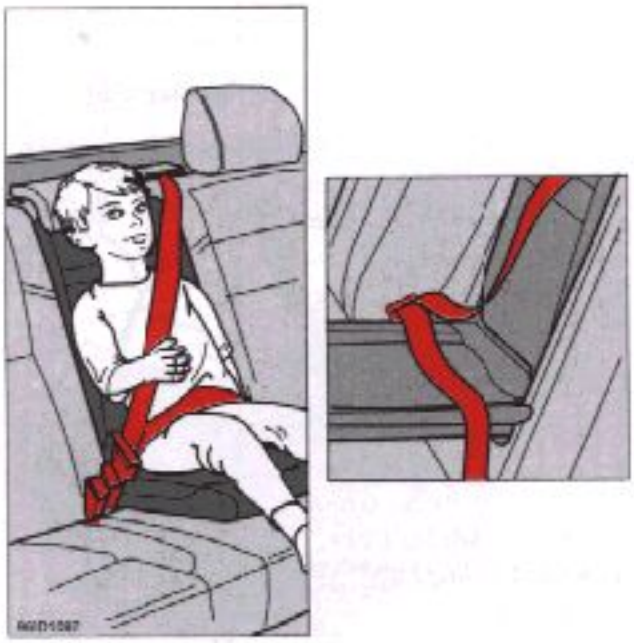
The top tether anchorage set includes the top tether anchorage plate, an 5/16" UNC bolt and a plastic trim cover. If another set is needed, consult your Volvo retailer.

Installing the top tether
Remove the plastic cover on the anchorage point you want to use. This can be done with a suitable coin. The cover is removed counter-clockwise. Refer to the child seat manufacturer's instructions for securing the seat. An additional bolt may be required for sedans. This may be obtained from your authorized Volvo retailer.



WARNING! Child Restraint Anchorages are designed to withstand only those loads imposed by correctly fitted Child Restraints. Under no circumstances are they to be used for adult seat belts or harnesses. The anchorages are not able to withstand excessive forces on them in the event of collision if full harness seat belts or adult seat belts are installed to them. An adult who uses a belt anchored in a Child Restraint Anchorage runs a great risk of suffering severe injuries should a collision occur. Do not install rear speakers which would require the removal of the top tether anchors or interfere with the proper use of the top tether strap.

pg. 3:10 Child safety



Integrated booster cushion (certain models)

Volvo's own integrated booster cushion has been specially designed to help safeguard a child seated in the center position of the rear seat. When using the integrated booster cushion, the child must be secured with the vehicle's three-point seat belt. The booster cushion is approved for children weighing between 22.7 and 36 kg (50 and 80 lbs) and between 117 and 137 cm (46 and 54 in) in height. It is not intended for children under 3 years of age.

Sedans/Wagon

With the child properly seated on the booster cushion (see illustration), adjust the head restraint to support the child's head (see page 1:3). The hip section of the three-point seat belt must fit snugly across the child's hips, not across the stomach.
The shoulder section of the three-point seat belt should be positioned across the chest and shoulder (see illustration). The shoulder belt must never be placed behind the child's back or under the arm.

To fold down the booster cushion:

- Pull the upper edge of the cushion down
- Fold up the backrest

To fold up the booster cushion:

- Fold down the booster cushion backrest
- Fold up the entire booster cushion unit

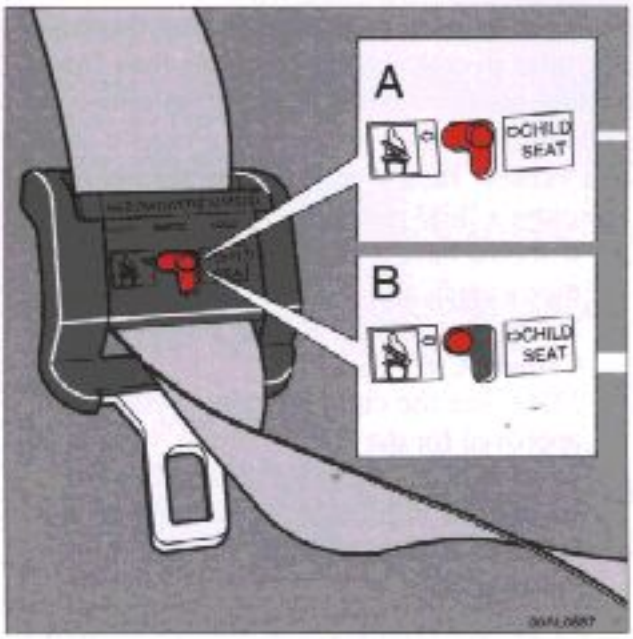
WARNING! Failure to follow the instructions on this page will increase the risk of your child being injured during a sudden stop or collision.
In the event of a collision while the integrated booster cushion was occupied, the entire booster cushion and center seat belt must be replaced. The booster cushion should also be replaced if it is badly worn or damaged in any way. This work should be performed by an authorized Volvo retailer only. The booster cushion should be cleaned while in place if the vehicle if possible. If not, please consult your Volvo retailer.

pg. 3:11 Child safety

Auxiliary seat (optional)

If all the seats are occupied, a rear-facing auxiliary seat in the cargo area of the wagon models can be used. This seat is designed for two children, each weighing between 23 - 40 kg (50 - 88 lbs.) and up to 150 cm (59 inches) in height.

WARNING! Both rear seat backrests must be up when the auxiliary seat is being used.
Do not use a booster cushion or child seat in conjunction with the auxiliary seat.



A-Lap section of belt locked in place, B-Lap section functions normally

Spool-out

To make child restraint installation easier, each seat buckle (except for the driver's belt) is equipped with a locking mechanism to help keep the lap section of the seat belt taut.
When attaching the seat belt to a child restraint:

- Make sure the red lock button is moved to the right (see illustration A). A coin, etc. can be used to move the button.
- Attach the seat belt to the child restraint according to the child restraint manufacturer's instructions.
- Pull the lap section of the seat belt taut.

The lap section of the seat belt cannot be loosened as long as the red lock button is in the right position. The lap section of the seat belt can be adjusted when the lock button is in the left position (see illustration B).

NOTE: Before exiting the car, check that the seat belt retracts fully after being unbuckled. If necessary, guide the belt back into the retractor slot. When not in use, the child restraint should be secured with the seat belt to help prevent movement during a sudden stop.

WARNING! Do not use child safety seats or child booster cushions/backrests in the front passenger's seat. We also recommend that children who have outgrown these devices sit in the rear seat with the seat belt properly fastened.

pg. 3:12 Child safety

Child safety

Volvo recommends the proper use of restraint systems for all occupants including children. Remember that, regardless of age and size, a child should always be properly restrained in a car.

Restraint systems for children are designed to be secured in the vehicle by lap belts or the lap portion of a lap-shoulder belt. Such child restraint systems can help protect children in cars in the event of an accident only if they are used properly. However, children could be endangered in a crash if the child restraints are not properly secured in the vehicle. Failure to follow the installation instructions for your child restraint can result in your child striking the vehicle's interior in a sudden stop.

Holding a child in your arms is NOT a suitable substitute for a child restraint system. In an accident, a child held in a person's arms can be crushed between the vehicle's interior and an unrestrained person. The child could also be injured by striking the interior, or by being ejected from the vehicle during a sudden maneuver or impact. The same can also happen if the infant or child rides unrestrained on the seat. Other occupants should also be properly restrained to help reduce the chance of injuries or increasing the injury of a child. All states and provinces have legislation governing how and where children should be carried in car. Find out the regulations existing in your state or province. Recent accident statistics have shown that children are safer in rear seating positions than front seating positions when properly restrained. A child restraint system can help protect a child in a vehicle. Here's what to look for when selecting a child restraint system:

- It should have a label certifying that it meets applicable Federal Motor Vehicle Safety Standards (FMVSS 213-80) - or in Canada, CMVSS 213.
- Make sure the child restraint system is approved for the child's height, weight and development - the label required by the standard or regulation, or instructions for infant restraints, typically provide this information.
- In using any child restraint system, we urge you to look carefully over the instructions that are provided with the restraint. Be sure you understand them and can use the device properly and safely in this vehicle. A misused child restraint system can result in increased injuries for both the infant or child and other occupants in the vehicle.
- If your child restraint requires a top tether strap, consult your authorized Volvo retailer for top tether anchorage and installation information.

When a child has outgrown the child safety seat, you should use the rear seat with the standard seat belt fastened. The best way to help protect the child here is to place the child on a cushion (not available in Canada) so that the seat belt is properly located on the hips (see page 3:10).

A specially designed and tested booster cushion for children between 22.7 - 36 kg (50 - 80 lbs) and 117 - 137 cm (46 - 54") can be obtained from your Volvo retailer.

If necessary, an auxiliary seat for children is available for use in the luggage compartment of station wagon models. This seat is designed for two children, each weighing between 23 - 40 kg (50 - 88 lbs.) and up to 150 cm (59 inches) in height.

WARNING!

- When using the auxiliary seat for children, both sections of the rear seat backrest must be secured in the upright position
- Do not use a booster cushion or child seat in conjunction with the auxiliary seat.

Seat belt maintenance

Check periodically that the anchor bolts are secure and that the belts are in good condition. Use water and a mild detergent for cleaning. Check seat belt mechanism function as follows:

Attach the seat belt and pull rapidly on the strap.

WARNING! Check other traffic before performing the following check.

Brake firmly from approximately 30 mph (50 km/h) or turn in a tight circle while pulling on the belt.

In the above checks you should not be able to pull the belt out.

Volvo Concern for Safety

Safety is the cornerstone for Volvo. Our concern dates back to 1927 when the first Volvo rolled off the production line. Three-point seat belts, safety cages, and energy-absorbing impact zones were designed into Volvo cars long before it was fashionable or required by government regulation. We will not compromise our commitment to safety. We continue to seek out new safety features and to refine those

already in our cars. You can help. We would appreciate hearing your suggestions about improving automobile safety. We also want to know if you ever have a safety concern with your car.

Occupant safety

How safely you drive doesn't depend on how old you are but rather on:

- how well you see
- your ability to concentrate
- how quickly you make decisions under stress to avoid an accident.

The tips listed below are suggestions to help you cope with the ever changing traffic environment.

- Never drink and drive.
- If you are taking any medication, consult your physician about its potential effects on your driving abilities.
- Take a driver-retraining course
- Have your eyes checked regularly
- Keep your windshield and headlamps clean.
- Replace wiper blades when they start to leave streaks.
- Take into account the traffic, road, and water conditions, particularly with regard to stopping distance.

Reporting Safety Defects in the U.S.

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Volvo Cars of North America. If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your retailer, or Volvo Cars of North America. To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in Washington, D.C. area) or write to: NHSTA, U.S. Department of Transportation, Washington D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.

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Starting and driving

pg. 4:1 Starting and driving

Starting and driving

This section on starting and driving contains items such as starting the engine, operating gear selector, towing, trailers.

4:2 Break-in period
4:3 Fuel requirements, Refueling
4:4 Economical driving
4:5 Starting the engine
4:6 Automatic Transmission
4:8 Points to remember
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pg. 4:2 Break-in period, Fuel requirements

A new car should be broken-in!

Refrain from utilizing your car's full driving potential during the first 1,200 miles (2,000 km).

Automatic transmission

Do not use "kick-down" during the first 1,200 miles (2,000 km).

NOTE - ENGINE OIL:

Although some oil consumption during normal engine operation, more oil is consumed when the engine is new as the internal parts generate higher friction while wearing-in to each other. From the time the engine is new until the first service is performed, the oil consumption could be higher than normal. For this reason, it is especially important to check the oil every time you refuel your car during this period. See page 8:6.
In general, the rate of oil consumption depends on such factors as: engine temperature, length of trip, driving conditions, oil viscosity and quality, engine speed and acceleration/deceleration.
Checking your engine oil level each time the car is refuelled is one of the most important items you can perform to help keep your car in good running order.

Deposit control gasoline

Volvo recommends the use of gasoline containing deposit control additives. These additives have shown to be efficient in keeping injectors and intake valves clean. Consistent use of deposit control gasolines will help ensure good driveability and fuel economy. If you are not sure whether the gasoline contains deposit control additives, check with the service station operator.

NOTE: Do not add additives yourself to the gasoline, unless you are recommended to do so by an authorized Volvo retailer.

pg. 4:3 Fuel requirements, Refueling

Unleaded Fuel

Each Volvo has a three-way catalytic converter and must use only unleaded gasoline. U.S. and Canadian regulations require that pumps delivering unleaded gasoline be labeled "UNLEADED". Only these pumps have nozzles which fit your car's filler inlet. It is unlawful to dispense leaded fuel into a vehicle labeled "unleaded gasoline only". Leaded gasoline damages the three-way catalytic converter and the heated oxygen sensor system. Repeated use of leaded gasoline will lessen the effectiveness of the

emission control system and could result in loss of emission warranty coverage. State and local vehicle inspection programs will make detection of misfueling easier, possibly resulting in emission test failure for misfueled vehicles.

Octane Rating

Volvo engines are designed for optimum performance on unleaded premium gasoline with an octane rating, AKI of 91, or above. AKI (ANTI KNOCK INDEX) is an average of the Research Octane Number, RON, and the Motor Octane Number, MON, (RON + MON/ 2).
The minimum octane requirement is AKI 87 (RON 91).

Gasoline Containing Alcohol and Ethers

"Oxygenated fuels"

Some fuel suppliers sell gasoline containing "oxygenates" which are usually alcohols or ethers. In some areas, state or local laws require that the service pump be marked indicating use of alcohol or ethers. However, there are areas in which the pumps are unmarked. If you are not sure whether there is alcohol or ethers in the gasoline you buy, check with the service station operator. To meet seasonal air quality restrictions, some states require the use of "oxygenated" fuel in certain areas.

Volvo allows the use of the following "oxygenated fuels"; however, the octane ratings listed on this page must still be met.

Alcohol -- Ethanol

Fuels containing up to 10% ethanol by volume may be used.
Ethanol may also be referred to as Ethyl alcohol, or "Gasohol".
Ethers -- MTBE
Fuels containing up to 15% MTBE may be used.

Refueling

The fuel tank filler cap is located behind the door on the left rear fender. Open cap slowly during hot weather conditions.
When filling, position the cap in the special bracket on the door.
After filling the tank, install the cap and turn until a "click" is heard.
The fuel tank is designed to hold approximately 21.1 US gals (80 liters) with sufficient volume left over to accommodate possible expansion of the fuel in hot weather. The "usable" capacity is 20.3 US gallons (77 liters). When the fuel level is low, such factors as ambient temperature, the fuel's "vapor pressure" characteristics, and terrain can affect the fuel pumps' ability to supply the engine with an adequate supply of fuel. Therefore, it is advisable to refuel as soon as possible when the needle nears the red zone, or when the fuel warning light comes on.

CAUTION: Take care not to spill gasoline during refueling. Gasolines containing alcohol can cause damage to painted surfaces, which may not be covered under the New Vehicle Limited Warranty.
Do not use gasoline containing methanol (methyl alcohol, wood alcohol). This practice can result in vehicle performance deterioration and can damage critical parts in the fuel system. Such damage may not be covered under the New Vehicle Limited Warranty.

pg. 4:4 Driving economy

Economical driving does not necessarily mean driving slowly

Better driving economy may be obtained by thinking ahead, avoiding rapid starts and stops and adjusting the speed of your vehicle to immediate traffic conditions. Observe the following rules:

- Bring the engine to normal operating temperature as soon as possible by driving with a light foot on the accelerator pedal for the first minutes of operation. A cold engine uses more fuel and is subject to increased wear.
- Whenever possible, avoid using the car for driving short distances. This does not allow the engine to reach normal operating temperature.
- Drive carefully and avoid rapid acceleration and hard braking.
- Do not exceed speed limit.
- Avoid carrying unnecessary items (extra load) in the car.
- Check tire pressure regularly (check when tires are cold).
- Remove snow tires when threat of snow or ice has ended.
- Note that roof racks, ski racks, etc., increase air resistance and thereby fuel consumption.
- Avoid using automatic transmission kick-down feature unless necessary.
- Avoid using the air conditioning when it is not required. When engaged, the air conditioner's compressor places places an additional load on the engine.

Other factors which decrease gas mileage are:

- Low tire pressure
- Worn or dirty spark plugs
- Incorrect spark plug gap
- Dirty air cleaner
- Dirty engine oil and clogged oil filter
- Dragging brakes
- Incorrect front end alignment

Some of the above mentioned items and others are checked at the standard Maintenance Service intervals.

NOTE: Since using (D)rive improves fuel economy, it should be used as often as possible.

pg. 4:5 Starting the engine

Starting and stopping a car equipped with automatic transmission

1 Fasten the seat belt.

WARNING! Before starting, check that the seat is adjusted properly. Make sure the brake pedal can be depressed completely. Move the seat closer if necessary. Refer to section "Front seats".

2 Apply the parking brake, if not already set. The gear selector is locked in the (P)ark position (SHIFTLOCK).

3 Without touching the accelerator pedal , turn the ignition key to the starting position. Allow the starter to operate for 5-10 seconds. Release the key as soon as the engine starts. If the engine fails to start, repeat step 3.
For cold starts at altitudes above 6000 ft (1800 m), depress the accelerator pedal halfway and turn the key to the starting position. Release the accelerator pedal slowly when the engine starts.

4 To release the gear selector, depress the brake pedal . See page 4:9 for instructions on manually overriding the SHIFTLOCK system if the lever cannot be moved. Do not race a cold engine

immediately after starting. Oil flow may not reach some lubricating points fast enough to prevent engine damage.

5 Select desired gear. The gear engages after a slight delay, especially noticeable when selecting R.

CAUTION: Engine should be idling; never accelerate until after you feel the gear engage! Too rapid acceleration immediately after selecting a gear will cause harsh engagement and premature transmission wear.

NOTE: Your car is equipped with a KEYLOCK switch system. When the engine is switched off, the gear selector must be in the (P)ark position before the key can be removed from the ignition switch.

WARNING!
Never leave car unattended with engine running.
Always open the garage doors fully before starting the engine inside a garage to ensure adequate ventilation. The exhaust gases contain carbon monoxide, which is invisible and odorless but very poisonous.

Engine warm-up initial driving procedure

Engines in vehicles driven short distances are subject to abnormally rapid wear because the engine never reaches normal operating temperature. It is therefore beneficial to reach normal operating temperature as soon as possible. This is best achieved by driving with a light foot on the accelerator pedal for a few minutes after starting, rather than prolonged idling.

B 6304 S Engine

This engine features hydraulic valve lifters which means that valve clearance is adjusted automatically. It is possible that the valve lifters will produce a ticking sound for the first few seconds after the engine is started, while the oil pressure is increasing.
If the car has not been used for a long period of time, this ticking sound may last for up to 15 minutes. This is entirely normal.

NOTE:
- Do not exceed 3000rpm until the ticking sound disappears.

- Selecting position P or N when idling at a standstill for prolonged periods of time will help prevent overheating of the transmission oil.

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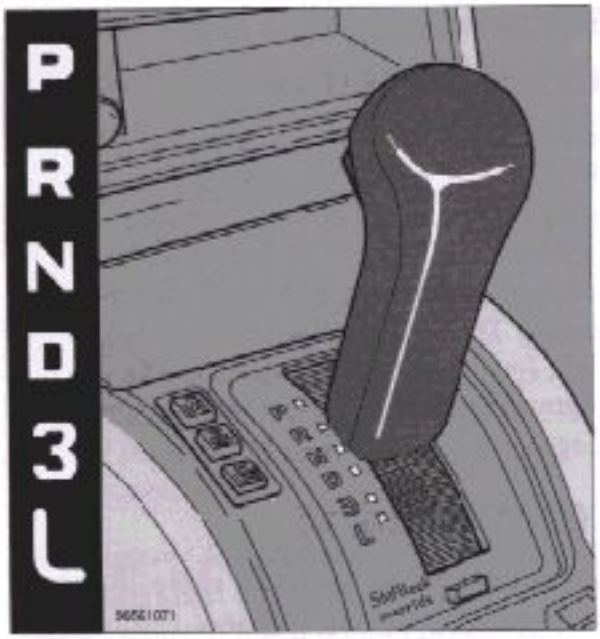
pg. 4:6 Automatic transmission



P (Park)

Use this position when starting the engine or parking the car.
Never use P while car is in motion.
The transmission is mechanically locked when in position P. Also use the parking brake when parking on grades.
The gear selector is locked in the P position (Shift lock). To release the selector, start the engine and depress the brake pedal. See page 4:9 for instructions on manually releasing the gear selector.

CAUTION: Never select P or R while the car is in motion. When initially selecting positions D, 3, L or R, your right foot should press firmly on the brake pedal to ensure that the car is standing still with the engine idling. The gear selector should not be downshifted to L at speeds above 75 mph (125 km/h).*
* Always observe posted speed limits!

WARNING!
Never leave the car when the engine is running. If, by mistake, the gear selector is moved from P the car may start moving.

R (Reverse)

Never engage R while is moving forward.

N (Neutral)

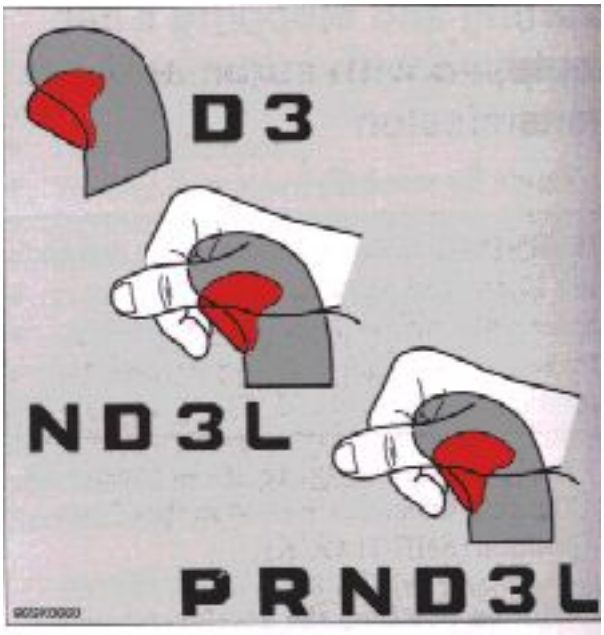
Neutral position = no gear is engaged. Use parking brake. The engine can be started with the gear selector in this position.

D (Drive)

D is the normal driving position and should be used as often as possible to help improve fuel economy. When modes E or S are selected, upshift and downshift of the forward gears occur automatically and are governed by accelerator pedal position and vehicle speed.

3 (Intermediate position)

Automatically shifts up and down between first second and third gears when driving mode E or S. There is no upshift from third gear. Position 3 can be used for driving in hilly terrain, for towing trailers or for increased engine braking power.

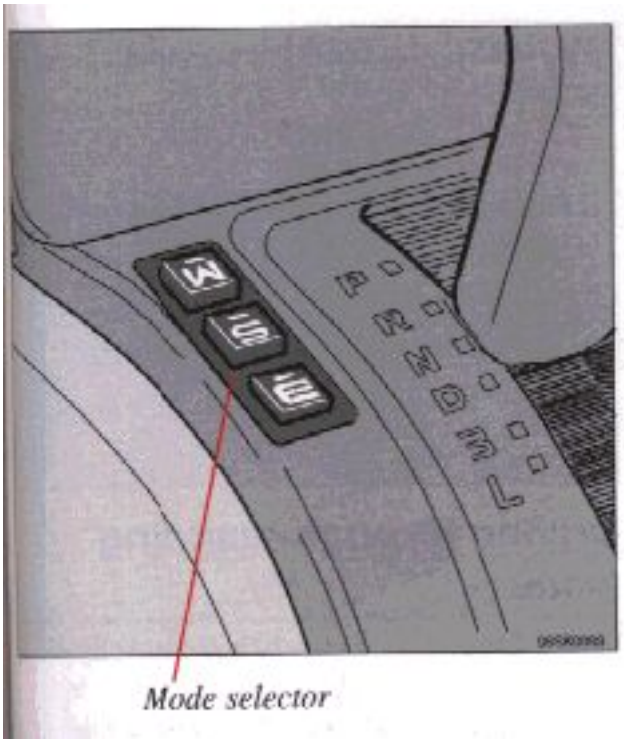


Shift gate positions

L (Low gear)

The gearbox does not upshift in position L! Select position L if you wish to drive in first or second gear and you do not wish to shift up (when driving in hilly terrain, for example, as position L provides the best engine braking power). The transmission will conspicuously shift down from second to first if road speed drops to below 25 or 20 mph (40 km/h or 30 km/h) (engines B6304 and B6254 respectively) when driving in Economy mode. When driving in Sport mode, the same very noticeable shift takes place if the speed drops to below 6 mph (10 km/h).

pg. 4:7 Automatic transmission



Shift gate positions

The gear selector can be moved freely between D and 3. Selections of other positions are obtained by depressing the selector knob prior to moving the selector.
Slightly depressing the selector knob allows selection of positions N, D, 3 and L. Fully depressing the selector knob allows selection of positions R and P. This is also necessary when initially bringing the selector out of position P. Fully depressing the selector knob thus permits shifting freely between all positions.

Kick-down

Automatic shift to a lower gear (kick-down) is achieved by depressing the accelerator pedal fully and briskly.
An up-shift will be achieved when approaching the top speed for a particular gear or by releasing the accelerator pedal slightly. Kick-down can be used for maximum acceleration or when passing at highway speeds.

Mode selector

The push-buttons to the left of the gear lever are for selection of modes E, S and W. Any mode can be selected while the car is on the move.

Winter/Wet mode Enhanced Vehicle Traction

This mode may be selected for starting/moving off on slippery roads or to lower downshift speeds if the transmission is in "L".
In this mode:
* In position D, the gearbox starts in third gear and changes up to forth gear.
* In position 3, second gear is locked and there is no change up to third gear. In position L, first gear is locked.

* These positions always offer the kick-down feature.

CAUTION: Driveability and fuel economy will be adversely affected by prolonged driving in mode W . Volvo recommends using this mode only when starting in extremely slippery conditions.

The indicator lamp in the instrument panel lights up when mode W is selected. Press button W in order to disengage this mode.
When mode W is disengaged, the gearbox automatically reverts to the previously selected S or E mode. If the indicator lamp begins to flash, this is an indication of a fault in the automatic gearbox. If the transmission does not shift properly, place the gear selector in position L. Please contact your Volvo retailer if this occurs.

Sport Mode

This mode is adapted to "sporty" driving characteristics. The transmission upshifts at higher engine speeds and less accelerator pedal pressure is required to initiate a downshift.

Economy Mode

This mode is used normally. The gearbox changes gears at a lower engine speed to achieve the best possible fuel consumption.

"Lock-up"

The automatic gearbox has a "lock-up" function. It reduces engine speed and saves fuel. The "lock-up" function can sometimes be felt as an additional gear change.

pg. 4:8 Points to remember

"Special Tips"

- For driving down steep hills and when driving for prolonged periods at low speeds, position L should be selected. Avoid, however, repeated changes since this can cause overheating of the transmission oil. For driving on long continuous uphill gradients, select position 3.
- Do not hold the car stationary on an incline by using the accelerator pedal. Instead, apply the hand brake (parking brake). This prevents the transmission oil from becoming overheated.
- When towing a trailer, select shift position 3.
- The (E)conomy mode should be selected when the cruise control is engaged.
- Refer to Caution on page 4:6

Cooling system

The risk for overheating is greatest, especially in hot weather, when:

- towing a trailer up steep inclines for prolonged periods at wide open throttle and low engine rpm.
- stopping the engine suddenly after high speed driving (so-called "after-boiling" can occur).

To avoid overheating, the following rules should be followed:

- Reduce speed and downshift when towing a trailer up long, steep inclines. The risk of overheating can be reduced by switching off the air conditioning system for a short time.
- Do not let the engine idle unnecessarily for prolonged periods.
- Do not mount auxiliary lamps in front of the grill.

When the risk of overheating is imminent, or in the event of overheating, (the temperature gauge goes repeatedly into, or stays continually in, the red section) the following precautions should be taken:

- Switch off the air conditioning system.
- Stop the car and put the gear lever into neutral. Do not stop the engine!
- Switch the heater to full (maximum) position. Increase the engine speed to approx. 2000 rpm (twice idling speed) until the temperature begins to drop.

See "Coolant" to check and top-up the coolant level if necessary.

WARNING! Do not remove the coolant expansion tank cap.

WARNING! Do not drive with trunk lid or tailgate open!
Poisonous exhaust gases may enter via the trunk lid or tailgate.
If the trunk lid/tailgate must be kept open for any reason, proceed as follows:

- Close the windows.
- Set the ventilation system control to and blower control to its highest setting.

Driving through standing water

CAUTION: Drive slowly and carefully if going through standing water (i.e. flooded roadways, etc.). Damage to engine could result if excess water is ingested through the air intake system. Never drive the vehicle in water deeper than 1 foot (300 mm). See the flood warning on page 3:7.

pg. 4:9 Points to remember

Shiftlock release

The gear selector is locked in the P position. To manually release the shift lock, turn the starting (ignition) key to position I and press firmly on the "SHIFTLOCK OVERRIDE" button located near the base of the gear selector (see illustration). While holding the override button down, move the gear selector from the (P)ark position.

Electrical system

When replacing the battery or when carrying out work involving the electrical system, the following should be observed:

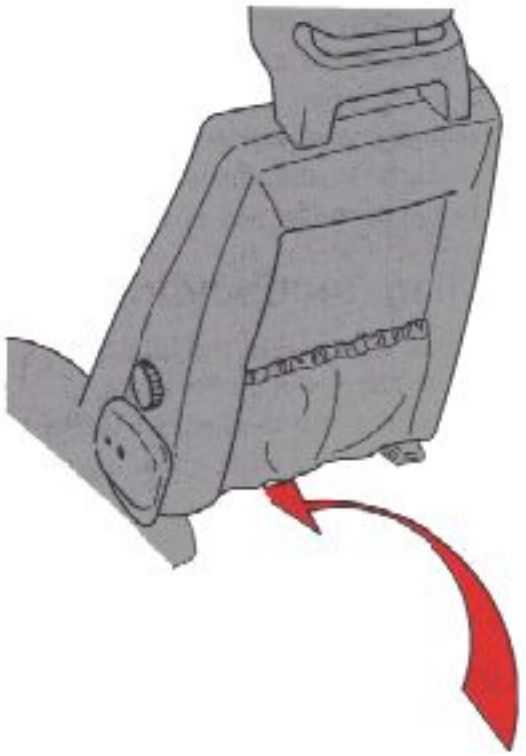
- A battery connection to the wrong terminal will damage the diodes. Before connections are made, check the polarity of the battery with a voltmeter.
- If booster batteries are used for starting, they must be properly connected to minimize the risk of the diode being damaged.

For correct connection, see "Jump starting" section.

- Never disconnect the battery circuit (for example, to replace the battery) while the engine is running, as this will immediately ruin the generator. Always make sure that all the battery connections are properly tightened.
- If any electrical-welding work is performed on the vehicle, the battery's ground lead (negative cable) and all the connecting cables of the generator must be disconnected and the welder cables placed as near

the welding point as possible.

- The radio must be turned off before the battery is disconnected.
- If the radio has an anti-theft code and the battery has been disconnected, the code must be re-entered before the radio will function properly.



WARNING!
The Supplemental Restraint System is grounded under the driver's seat. Do not loosen the two screws grounding the unit. Do not ground other electrical components using these screws or any other points near them. Faults in the system could occur if it is improperly grounded.

pg. 4:10 Points to remember

Weight distribution affects handling

At the specified curb weight your car has a tendency to understeer, which means that the steering wheel has to be turned more than might seem appropriate for the curvature of a bend. This ensures good stability and reduces the risk of rear wheel skid. Remember that these properties can alter with the vehicle load. The heavier the load in the trunk, the less the tendency to understeer.

Handling, roadholding

Vehicle load, tire design, and inflation pressure, all affect vehicle handling. Therefore, check that the tires are inflated to the recommended pressure according to the vehicle load. See "Tire pressure" section. Loads should be distributed so that capacity weight or maximum permissible axle loads are not exceeded.

WARNING! It is recommended that tire of the same make and dimensions be used on all four wheels (including the use of snow tires). Do not use bias ply tires as this will adversely alter vehicle handling characteristics.

WARNING!
An extra mat on the driver's floor can cause the accelerator pedal to catch. Check that the movement of the accelerator pedal is not impeded. Not more than one protective floor covering may be used at one time.

Roof racks

Roof rails are standard equipment on wagon models. Load bars are available as a retailer installed option on the sedan models. Observe the following points when is use:

- Avoid single-point loads. Distribute the load evenly.
- Place heavier cargo at bottom of load.
- Observe that center of gravity and handling are influenced by load weight.
- Increasing load size increases wind resistance and, thus, adversely affects fuel economy.
- Anchor the cargo correctly with appropriate tie-down equipment.
- Drive carefully. Avoid rapid starts, fast cornering and hard braking.
- Max. roof load is 220 lbs. (100 kg) for removable racks. For permanent roof racks, check the manufacturers weight specifications.

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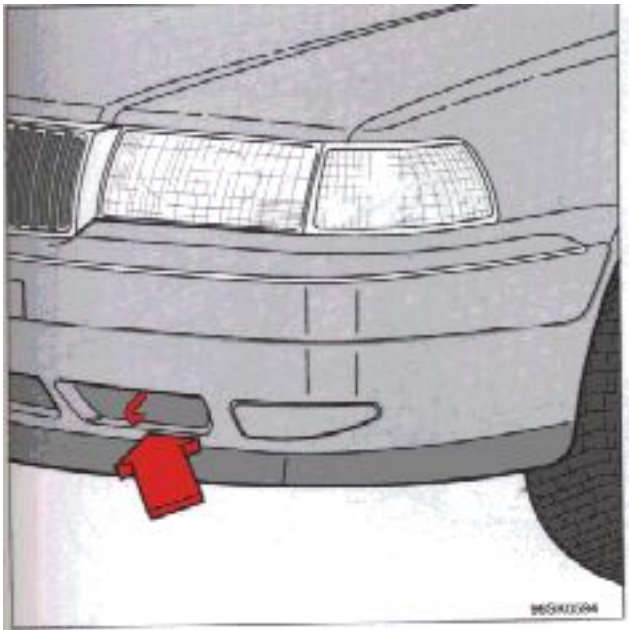
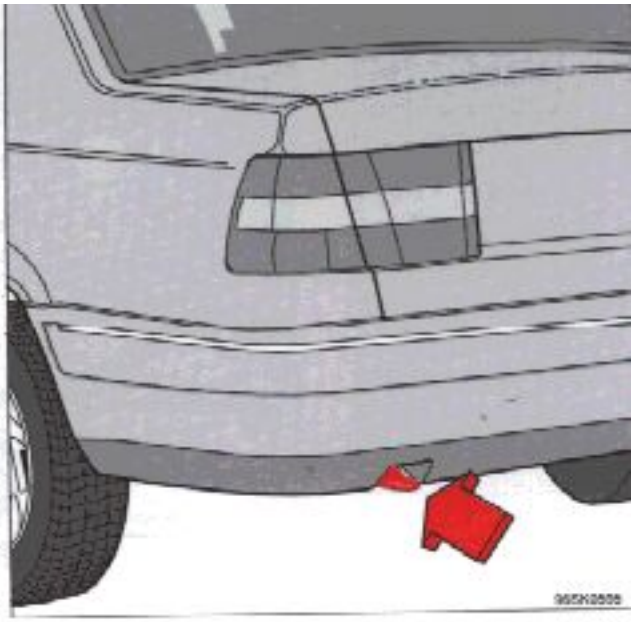
pg. 4:11 Emergency towing (pulling of vehicles)



Front eyelet



Rear eyelet

Precautionary steps to observe when car is in tow

- Steering must be unlocked.
- Please check with state and local authorities before attempting this type of towing, as vehicles being towed are subject to regulations regarding maximum towing speed, length and type of towing device, lighting, etc.
- Remember that power brake and power steering assists will not be available when engine is inoperative. Brake pedal pressure required is 3 - 4 times above normal and greater steering effort must be exerted.
- Gear selector in position N. Check transmission oil level (see section titled "Transmission oil").
- Maximum speed: 20 mph (30 km/h).
- Maximum distance with rear wheels on ground: 20 miles (30 km).
- If the battery is dead, it is not possible to release the gear selector by pressing the brake pedal. Release the gear selector manually, see page 4:9.

Cars equipped with automatic transmission/three-way catalytic converters cannot be started by pushing or pulling the car.

CAUTION: The towing eyelets must not be used for pulling another vehicle out of a ditch or any similar

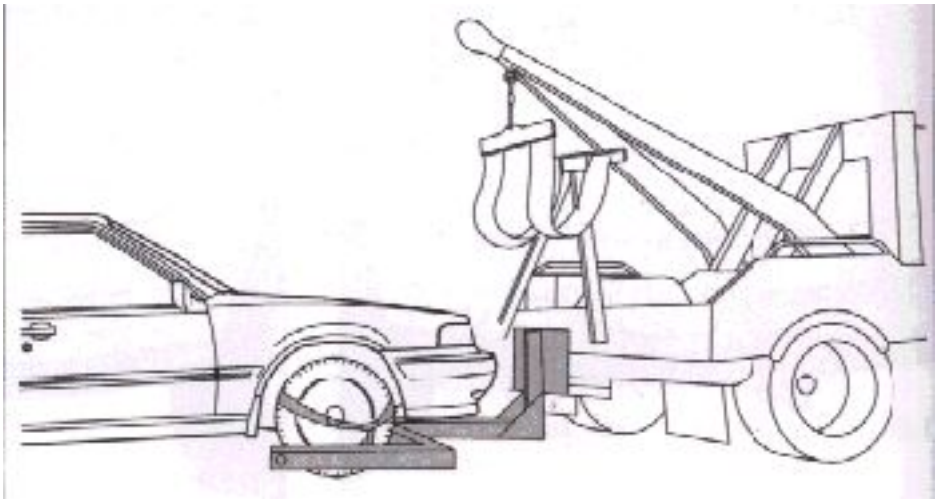
purpose involving severe strain.
Do not attempt to start the car by pushing or pulling it as damage to the three-way catalytic converter can result

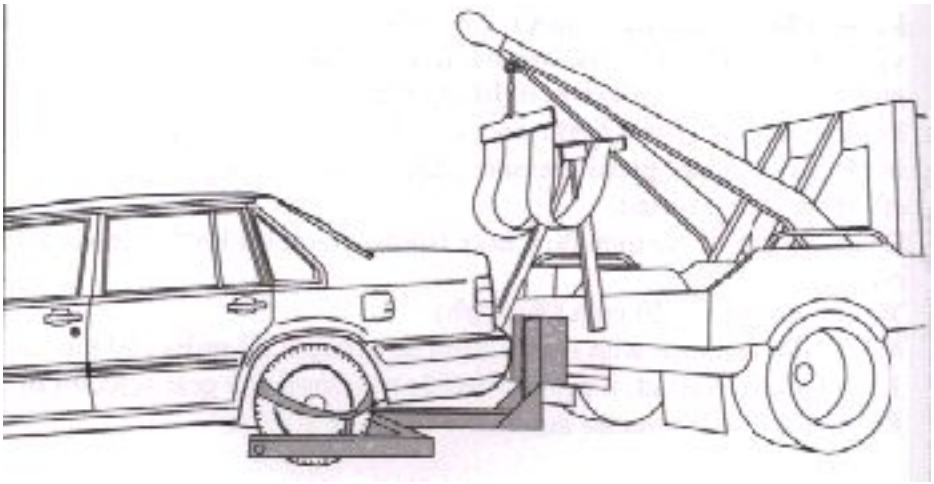
pg. 4:12 Vehicle towing information

Only use wheel lift or flat bed equipment.

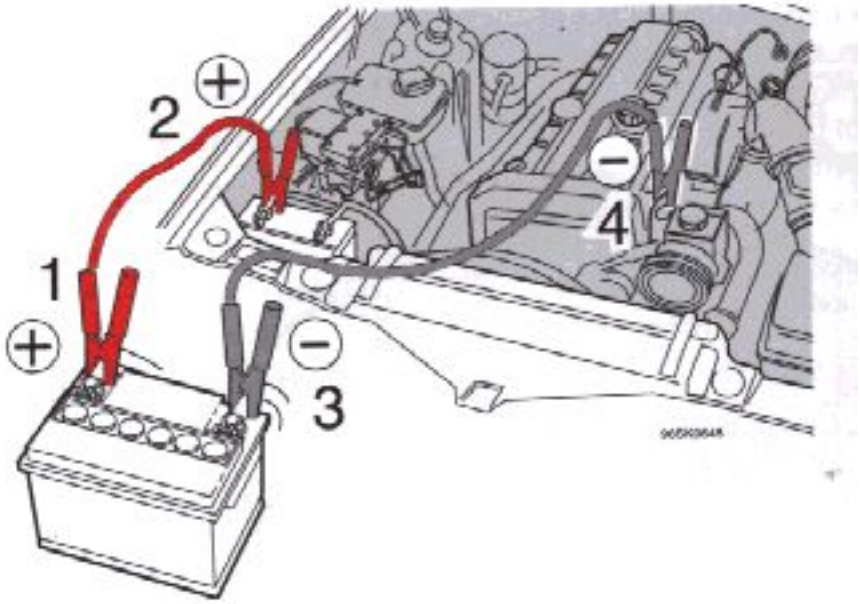
CAUTION:
Sling-type equipment applied at the front will damage radiator and air conditioning lines.
It is equally important not to use slingtype equipment inside the rear wheels: serious damage to the rear axle may result.

WARNING!
Do not use the towing eyelets on the car to pull the car up onto a flat bed tow truck.





pg. 4:13 Jump starting



Jump starting

Check that cars are not touching to prevent premature completion of negative circuit. Note the position of the battery terminals and using jumper cables, first connect booster battery positive (+) terminal (1) to car battery positive (+) terminal (2). Then connect booster battery negative (-) terminal (3) to a stationary solid metal part on the engine at a point away from the battery (4).
Do not connect booster cable to any part of fuel system or any moving parts. Avoid touching hot manifolds. After engine has started, remove first the negative (-) terminal jumper cable. Then remove the positive (+) terminal jumper cable.

WARNING!

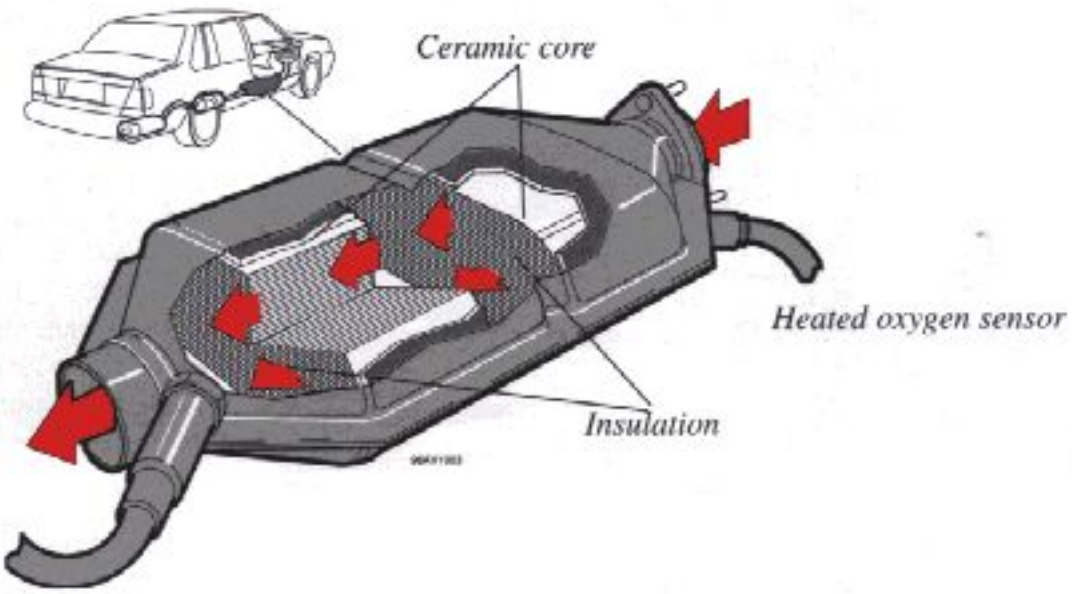
- To reduce the possibility of explosion, never expose battery to open flame or electric spark.
- Do not smoke near battery.
- Batteries generate hydrogen gas which is flammable and explosive.
- Battery fluid contains sulfuric acid. Do not allow battery fluid to contact eyes, skin, fabrics or painted surfaces. If contact occurs, flush affected area immediately with water.
- Obtain medical attention immediately if eyes are affected.

Failure to follow the instructions for jump starting can lead to personal injury.

CAUTION: Improper hook-up of jumper cables or use of other than 12-volt batteries could result in damage to equipment and/or battery.

pg. 4:14 Three-way catalytic converter

Three-way catalytic converter cautions



- Keep your engine properly tuned. Certain engine malfunctions, particularly involving the electrical, fuel or distributor ignition systems, may cause unusually high three-way catalytic converter temperatures. Do not continue to operate your vehicle if you detect engine misfire, noticeable loss of power or other unusual operating conditions, such as engine overheating or backfiring. A properly tuned

engine will help avoid malfunction that could damage the three-way catalytic converter.

- Remember that tampering or unauthorized modification to the engine or the vehicle may be illegal and can cause three-way catalytic converter or exhaust system overheating. This includes:

- Altering fuel injection settings or components. Adjusting distributor ignition timing beyond specified limits.
- Altering emission system components or location or removing components
- Repeated use of leaded fuel.

- Do not park your car over combustible materials, such as grass or leaves, which can come into contact with the hot exhaust system and cause such materials to ignite under certain wind and weather conditions.
- Excessive starter cranking (in excess of one minute), with an intermittently firing or flooded engine, can cause three-way catalytic converter or exhaust system overheating.

NOTE: Unleaded fuel is required for cars with three-way catalytic converters. A label on the instrument panel and inside fuel tank filler door will remind owners and filling station attendants of this requirement.

Important! It is unlawful to dispense leaded fuel into any vehicle labeled "unleaded gasoline only".

pg. 4:15 Brake system

If one of the brake circuits should malfunction, the red warning light will come on

The pedal stroke increases slightly, the pedal feels softer and extra pressure is required for normal braking.
If the light comes on while driving or braking, stop immediately and check the brake fluid level in the reservoir.

WARNING!
If the fluid level is below the MIN mark in either section of the reservoir: DO NOT DRIVE. Tow the car to a Volvo retailer and have the brake system checked and repaired.

Anti-lock Brake System - ABS

If the warning lamp lights up there si a malfunction of the ABS system (the standard braking system will however function) and the vehicle should be driven to a Volvo retailer for inspection.
The Anti-lock Braking System (ABS) helps to improve vehicle control (stopping and steering) during severe braking conditions by limiting brake lock-up. When the system "senses" impending lock-up, braking pressure is automatically modulated in order to help prevent lockup, which could lead to a skid.
The system performs a self-diagnostic test when the vehicle is started and at 4 mph (6 km/h). The driver may detect on pulsation of the brake pedal, which is normal. To obtain optimal effect from the ABS system, constant pressure should be kept on the brake pedal while the system is modulating the brakes. Do not pump the brake pedal.
The switching of the ABS modulator will be audible at this time.
Please be aware that ABS does not increase the absolute braking potential of the vehicle.
While control will be enhanced, ABS will not shorten stopping distances on slippery surfaces.

Moisture on brake discs and brake pads affects braking.

Driving in rain and slush or passing through an automatic car wash can cause water to collect on the brake discs and pads. This will cause a delay in braking effect when the pedal is depressed. To avoid such a delay when the brakes are needed, depress the pedal occasionally when driving through rain, slush etc. This will remove the water from the brakes. Check that brake application feels normal. This should also be done after washing or starting in very damp or cold weather.

Severe strain on the brake system

The brakes will be subject to severe strain when driving in mountains or hilly areas or towing. The speed is usually low which means that the cooling of the brakes is less efficient than when driving on level roads. To reduce the strain on the brakes it is advisable not to use the brakes excessively. Instead, shift into a lower gear, position 3 or in some cases L, and let the engine help with the braking.
Do not forget that, if you are towing a trailer, the brakes will be subjected to greater load than is normal.

If the brake power-assist does function

The power assist to the brakes functions only when the engine is running. When the car is moving

without the engine running the brake pedal pressure required to stop the car is increased by 3-4 times. The brake pedal feels stiff and hard.

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pg. 4:16 Trailer towing

When preparing for trailer towing, observe the following:

- Volvo recommends the use of Volvo trailer hitches which are specially designed for the car. For trailer weights exceeding 2000 lbs. (908 kg), use only a trailer hitch offered as a Genuine Volvo accessory.

NOTE: Models with automatic transmission are equipped with a transmission oil cooler as standard equipment. This cooler helps prevent overheating of the transmission during times of increased load, as when towing a trailer.

- Maximum trailer weight recommended by Volvo is:

Trailers without brakes : 1100 lbs (500kg)
Trailers with brakes: 2" ball - 3300 lbs (1500 kg), 1 7/8" ball - 2000 lbs (908 kg).

Observe legal requirements of the state in which the vehicles are registered.

WARNING! Bumper-attached trailer hitches must not be used on Volvos, nor should safety chains be attached to the bumper. Trailer hitches attaching to the vehicle rear axle must not be used.

WARNING! Never connect a trailer's hydraulic brake system directly to the vehicle brake system, nor a trailer's lighting system directly to the vehicle lighting system. Consult your nearest authorized Volvo retailer for correct installation.

All Volvo models are equipped with energy-absorbing shock-mounted bumpers. Trailer hitch installation should not interfere with the proper operation of this bumper system. Trailer towing does not normally present any particular problems, but take into consideration:

- Recommended hitch tongue load is 110 (50 kgs) for trailer weights below 2,650 lbs (1,200 kgs) and 165 lbs (75 kgs) for trailer weights above 2,650 lbs (1,200 kgs).
- For trailer weights between 2,650-3,300 lbs (1,200-1,500 kgs) a top speed of 50 mph (80 km/h) should never be exceeded.
- Increase tire pressure to recommended full-load pressure. See section "Wheels and tires".
- Engine and transmission are subject to increased loads. Therefore, engine coolant temperature should be closely watched when driving in hot climates or hilly terrain. Use lower gear and turn off air

conditioner if temperature gauge pointer enters the red range.
- Avoid overload and other abusive operation.
- Hauling a trailer affects handling, durability, and economy.
- It is necessary to balance trailer brakes with the towing vehicle brakes to provide a safe stop (check and observe State/Local regulations).
- Do not connect the trailer's brake system directly to the vehicle's brake system.
- More frequent vehicle maintenance is required.
- Remove the ball and drawbar assembly when the hitch is not being used,
- Volvo recommends the use of synthetic engine oil when towing a trailer over long distances or in mountainous areas.
- The trailer hitch tongue load (110/165 lbs - 50/75 kg) is part of the vehicle's capacity weight. It may be necessary to reduce the trunk/cargo area load when towing a trailer to ensure that the max. permissible axle load or gross vehicle weight are not exceeded.

NOTE: Refer to section "Automatic transmission" for additional trailer hauling tips.

pg. 4:17 Winter driving

Cold weather precautions

- If you wish to check your car before the approach of cold weather, the following advice is worth noting:

Make sure that the engine coolant contains at least 50 percent antifreeze: that is, 5.3 qts. (5 liters) Volvo Genuine Coolant/Antifreeze. This gives protection against freezing down to -31°F (-35°C). See section "Coolant".
The use of "recycled" antifreeze is not approved by Volvo. Different types of antifreeze may not be mixed.
- Try to keep the fuel tank well filled - this prevents the formation of condensation in the tank.

In addition in extremely cold weather conditions it is worthwhile to add fuel line de-icer before refueling.
- The viscosity of the engine oil is important. Oil with low viscosity (thinner oil) improves cold-weather starting as well as decreasing fuel consumption while the engine is warming up. For winter use, 5W-30 oil, particularly the synthetic type, is recommended.

Be sure to use good quality oil but do not use this cold-weather oil for hard driving or in warm weather. See section "Engine oil" for more information.
- The load placed on the battery is greater during the winter since the heater, windshield wipers, lighting etc. are used more often. Moreover, the capacity of the battery decreases as the temperature drops. In very cold weather, a poorly charged battery can freeze and be damaged. It is therefore advisable to check the state of charge more frequently and spray an anti-rust oil on the battery posts.

- Volvo recommends the use of snow tires on all four wheels for winter driving - see section "Wheels and tires".
- To prevent the washer reservoir from freezing, add washer solvents containing antifreeze. This is important since the dirt is often splashed on the windshield during winter driving, thus requiring frequent use of the washers and wipers.
- The Volvo Washer Solvent should be diluted as follows:

Down to 14°F (-10°C): 1 part anti-freeze and 4 parts water
Down to 5°F (-15°C): 1 part anti-freeze and 3 parts water
Down to 0°F (-18°C): 1 part anti-freeze and 2 parts water
Down to -18°F (-28°): 1 part anti-freeze and 1 part water

- Use lock spray or grease in the locks.

NOTE: Avoid the use of de-icing spray as they can cause damage to the locks.

Automatic differential lock (certain models)

The differential automatically locks at speed between 3 - 25 mph (5 - 40 km/h) if either of the drive wheels begins to lose traction. The differential lock improves power distribution to the drive wheels in slippery conditions, shifting power to the wheel with best traction. It also functions when the transmission is in reverse. Also see "Winter/Wet" mode on page 4:7.

Winter/Wet mode

Enhanced Vehicle Traction

This mode may be selected for starting/moving off on slippery roads or to lower downshift speeds if the transmission is in "L".
Mode W
* In position D, the gearbox starts in third gear and changes up to fourth gear.
* In position 3, second gear is locked and there is no change up to third gear. In position L, first gear is locked.
* These positions always offer the kick-down feature.

pg. 4:18 Long distance trip

Before a long distance trip

It is always worthwhile to have your car checked at a Volvo retailer before driving long distances. Your retailer will also be able to supply you with bulbs, fuses, spark plugs and wiper blades for your use in the event that problems occur.

If you prefer to check the car yourself, please note the following:

- Check that the engine runs smoothly and that fuel consumption is normal.
- Check engine oil, coolant levels, and for possible fuel leakage.
- Check transmission oil level and rear axle for leakage.
- Check condition of drive belts.
- Check state of charge of battery.
- Examine tires carefully (the spare tire as well), and replace those that are worn. Check tire pressures.
- The brakes, front wheel alignment, and steering gear should be checked by your Volvo retailer only.
- Check all lights, including high beams.
- Reflective warning triangles are legal requirement in some countries.
- Have a word with your Volvo retailer concerning engine adjustments if you intend to drive in countries where it may be difficult to obtain correct fuel.

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Wheels and tires

pg. 5:1 Wheels and tires

Wheels and tires

The handling and riding comfort of the vehicle is dependent on the inflation pressure and the type of tires fitted. Read the following pages carefully.

5:2 General information, Wear indicator, Tire economy, Flat spots

5:3 Snow chains, Winter tires

5:4 Inflation pressure

pg. 5:2 Wheels and tires

General information

Your vehicle is equipped with tires according to the tire information label located on the rear facing side of the right front door.

The following is an example of a tire designation code:
195 = tire width in mm.
60 = tire profile. This is the relationship (in percent) between the section height and the width of the tire.
R = radial tires.
15 = diameter in inches on all four wheels.

The tires have good road holding characteristics and offer good handling on dry and wet surfaces. Your Volvo may be equipped with "all-season" tires, which provide a somewhat higher degree of winter roadholding on slippery surfaces than tires without the "all-season" rating. However, for optimum road holding on icy or snow covered roads - we recommend suitable winter tires.
When replacing tires, be sure that the new tires are the same size designation, type (radial) and preferably from the same manufacturer, on all four wheels. Otherwise there is a risk of altering the car's road-holding and handling characteristics.

NOTE: When storing wheel/tire assemblies (e.g. winter tires and wheels), either stand the assemblies upright or suspend them off the ground. Laying wheel/tire assemblies on their sides for prolonged periods can cause wheel and/or tire damage.

Wear indicator

The tires have a so-called "wear indicator" in the form of a number of narrow strips running across or parallel to the tread. When approx. 1/16" (1.6 mm) is left on the tread, these strips show up and indicate that the tire should be replaced.
Tires with less than 1/16" (1.6 mm) tread have a very poor grip in rain or snow.
When replacing worn tires, it is recommended that the tire be identical in type (radial) and size as the one being replaced. Using a tire of the same make (manufacturer) will prevent alteration of the driving characteristics of the vehicle.

To improve tire economy:

- Maintain correct tire pressure.
- Drive smoothly: avoid fast starts, hard braking and tire screeching.
- Tire wear increases with speed.
- Do not change wheel location unless necessary.
- Correct front wheel alignment is very important. Unbalanced wheels impair tire economy and driving comfort.
- If the wheels are rotated, they should be kept on the same side of the car so that they revolve in the same direction as prior to rotation.
- Hitting curbs or potholes can damage the tires and/or wheels permanently.

Flat spots

All tires become warm during use. After cooling, when the vehicle is parked, the tires have a tendency to distort slightly, forming flat spots. These flat spots can cause vibrations similar to the vibrations caused by imbalanced wheels.
They do, however, disappear when the tire warms up. The degree to which the flat spots form depends on the type of cord used in the tire. Remember that, in cold weather, it takes longer for the tire to warm up and consequently longer for the flat spot to disappear.

pg. 5:3 Wheels and tires

Snow chains

Snow tire chains can be used on your Volvo with the following restrictions:
- Snow chains should be installed on your rear wheels only.
- Snow chains can only be used on tires which are not wider than 195 mm.
- Sufficient clearances between chains and brakes, suspension and body components must be maintained.
- Some strap-on type chains will interfere with brake components and therefore CANNOT be used.

CAUTION:
- Check local regulations regarding the use of snow chains before installing.
- Always follow the chains manufacturer's installation instructions carefully. Install chains as tightly as possible and re-tighten periodically.
- Never exceed the chain manufacture's specified maximum speed limit. (Under no circumstances should that limit be higher than 30 mph (50 km/h).
- Avoid bumps, holes or sharp turns when driving with snow chains.
- The handling of the vehicle can be adversely affected when driving with chains. Avoid fast or sharp turns as well as locked wheel braking.

Snow tires, studded tires *

Tires for winter use:
Owners who live in or regularly commute through areas with sustained periods of snow or icy driving conditions are strongly advised to fit suitable winter tires to help retain the highest degree of traction.

It is important to install winter tires on all four wheels to help retain traction during cornering, braking and accelerating. Failure to do so could reduce traction to an unsafe level or adversely affect handling. Do not mix tires of different design as this could also negatively affect overall tire road grip.

Winter tires wear more quickly on dry roads in warm weather. They should be removed when the winter driving season has ended.

Studded tires should be run-in 300-600 miles (500-1000 km) during which the car should be driven as

smoothly as possible to give the studs the opportunity to seat properly in the tires. The car tires should have the same rotational direction throughout their entire lifetime. In other words, if you wish to rotate the wheels, make sure that the same wheels are always on the same side of the car.

NOTE: Please consult state or local regulations restricting the use of studded winter tires before installing such tires.

WARNING! Special wheel rims for air dams
Only special wheel rims, tested and approved by Volvo, are suitable for use with the air dam installed on the 960.

* Where permitted

pg. 5:4 Wheels and tires

Checking and correcting tire pressure

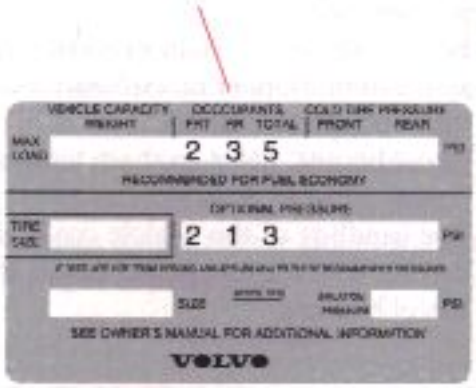
Check the tire pressure when refueling.
The tire pressure should be corrected only when the tires are cold. With warm tires, correct only when the pressure is too low. The tire temperature rises after driving just a few miles.

Vehicle Loading

The tires on your Volvo will perform to specifications at all normal loads when inflated as recommended on the tire information label* located on the rear facing side on the right front door. This label lists both the tire and vehicle design limits. Do not load your car beyond the load limits indicated.

* Please note that the tire information label indicates pressures for both comfort and fuel economy.

Located on rear edge of right front door



(Sample tire pressure label)

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In case of emergency

pg. 6:1 In case of an emergency

In case of emergency

Even if you maintain your car in good running condition, there is always the possibility that something might go wrong and prevent you from driving, such as a punctured tire, blown fuse or bulb, etc.. For additional information, see section "ON CALL Road Assistance".

6:2 Changing a wheel

6:4 Temporary spare tire

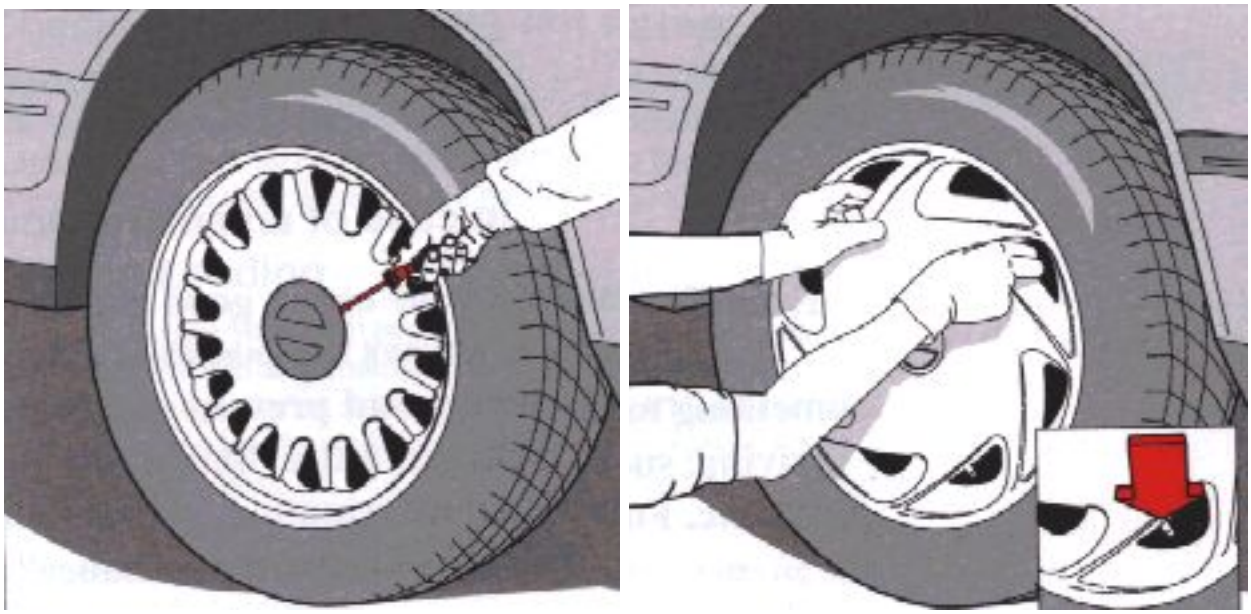
6:5 Replacing bulbs

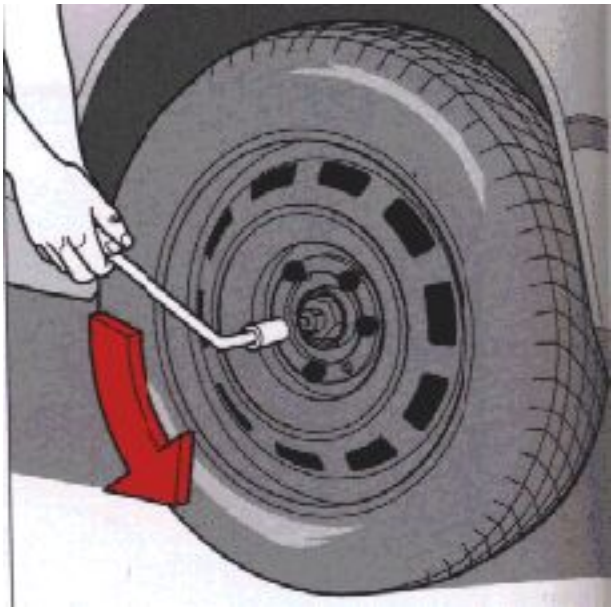
6:13 Replacing fuses

6:17 Installation of accessories

6:18 Replacing wiper blades

pg. 6:2 Wheel changing





Changing a wheel

On sedans the spare wheel, jack and toolbag are located in the trunk, beneath the carpet. The jack must be completely retracted to fit into the holder.

On wagons, the spare tire and the jack are located beneath the floor mat in the large storage bin. Always secure the spare tire and the jack to prevent them from rattling.

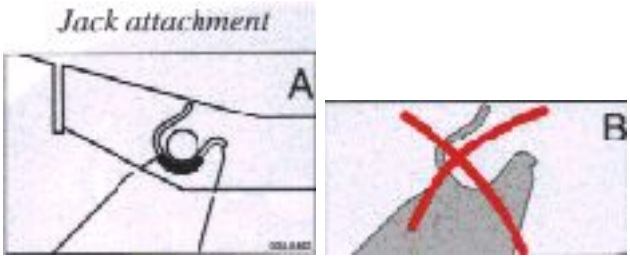
- Remove the wheel cap, using the screwdriver in the tool kit.
- With the car still on the ground, use the box wrench from the tool kit to loosen the wheel nuts 1/2 - 1 turn. Turn the nuts counterclockwise to loosen.

NOTE:
To avoid excessive wear and the necessity of rebalancing, mark and reinstall wheels in same location and position as before removal. To lessen the chance of imbalance, each wheel hub is equipped with a guide stud to ensure that a removed wheel can be reinstalled in its original position (as when changing over to winter tires/wheels).

pg. 6:3 Wheel changing

Attaching the jack

There is a jack attachment adjacent to each wheel location. Position the jack on the bar in the jack attachment as shown in the illustration above and crank while simultaneously guiding the base to the ground. The base of the jack must be flat on a level, firm, non-slippery surface. Before raising the car check that the jack is still correctly positioned in the attachment . Now raise the vehicle until the wheel is free of the ground. Unscrew the wheel nuts completely and carefully remove the wheel so as not to damage the tread of the studs.



WARNING!

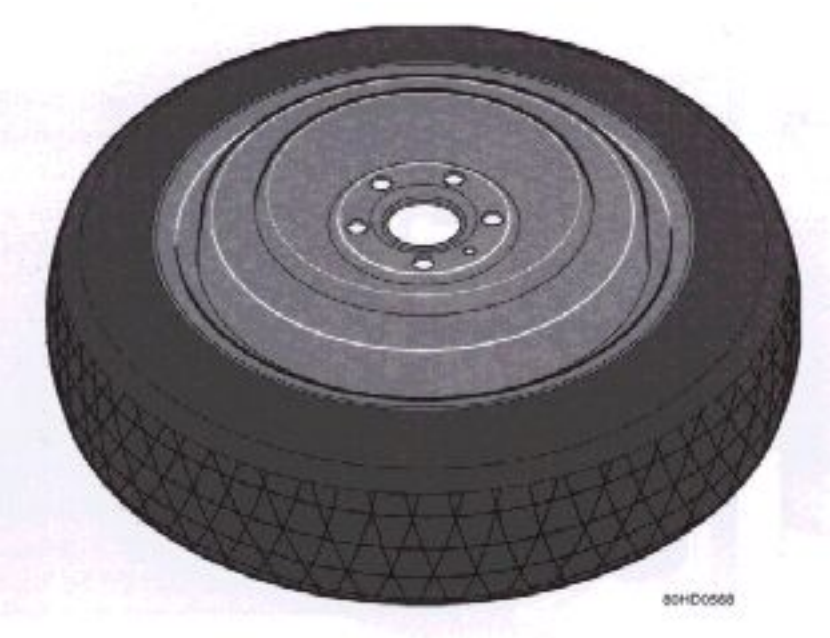
- The jack attachment must engage the bar in the jack attachment (A). The car's weight must not rest on the jack's attachment (B).
- Be sure the jack is on a firm, level, non-slippery surface.
- Never allow any part of your body to be extended under a car supported by a jack.
- Use the jack intended for the car when replacing a wheel. For any other job, use stands to support the end of the car being worked on.
- Apply the parking brake, select position P (automatic transmission).
- Block the wheels standing on the ground. Use rigid wooden blocks or large stones.
- The jack should be kept well-greased.

Installing the wheel

Clean the contact surfaces on the wheel and hub. Lift the wheel and place it on the hub. Make sure that you align the wheel with the guide stud on the wheel hub prior to installation. Install the wheel nuts crosswise and tighten lightly. The conical side of the nuts should face the wheel. Lower the vehicle to the ground and alternately tighten the nuts to 63 lbs. (85 Nm). Install the wheel cap.

Correct tightening order for wheel nuts

pg. 6:4 Spare tire



WARNING!
Current legislation prohibits the use of the "Temporary Spare" tire other than as a temporary replacement for a punctured tire. In other words, it must be replaced as soon as possible by a standard tire. Roadholding, etc.., may be affected with the "Temporary Spare" in use. Do not, therefore, exceed 50 mph (80 km/h).

Temporary Spare (certain models)

The spare tire of your car is what is called a "Temporary Spare". This is embossed on the tire. See illustration.
Recommended tire pressure (see decal) should be maintained irrespective of which position of the car the Temporary Spare tire is used on. In the event of damage to this tire a new one can be purchased from your Volvo retailer.

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pg. 6:5 Replacing bulbs

Replacing bulbs

The method for replacement of bulbs in the various lighting units is shown on the following pages.
Make sure when installing bulbs, that the guide pin on the socket fits into its corresponding recess.
When installing Halogen bulbs, do not touch the glass with your fingers because grease, oil or any other impurities can be carbonized onto the bulb and damage the reflector.
Use bulbs of correct type and voltage. Failure to do so could cause the bulb failure warning light to activate.

NOTE: Turn the ignition and the light switch off before replacing any bulbs.

Headlights (high/low beams)

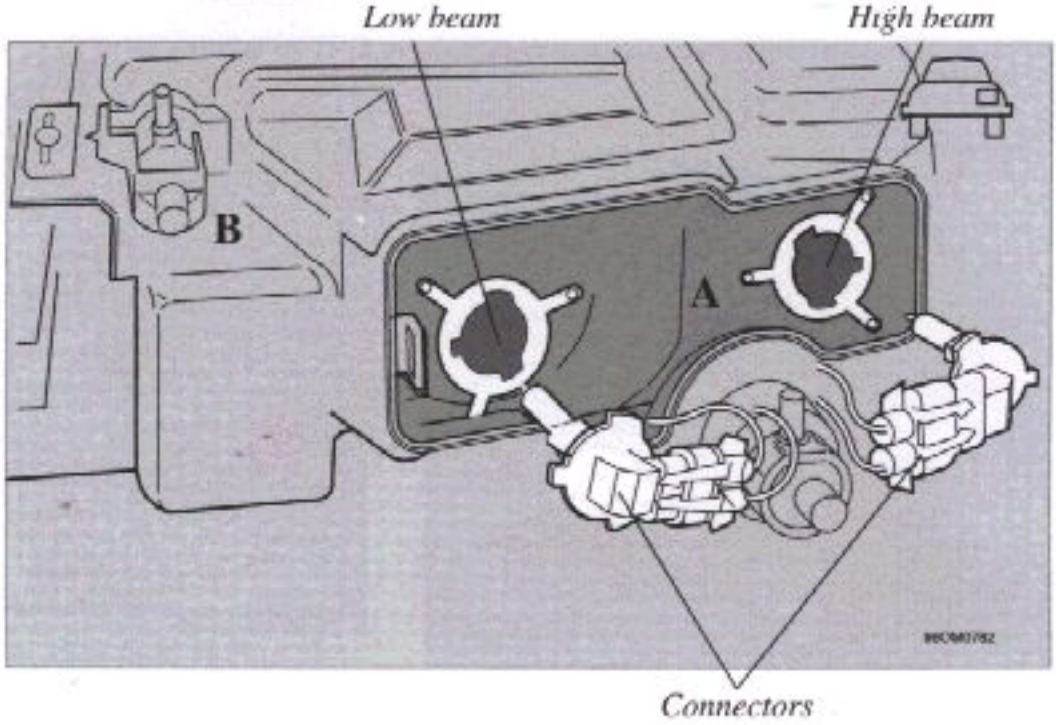
1. Press the protruding tabs on the plastic cover and pull out towards the fender.
2. Turn the bulb and connector 1/4 turn counter-clockwise and remove.
3. Remove the connector from the bulb.
4. Press a new bulb into the connector without touching the bulb itself.
5. Reinsert the bulb into the headlight housing and turn 1/4 turn clockwise until the unit seats properly.
6. Reinstall the plastic cover.

Bulb Power US Bulb No.
High beam 70W HB3/9005
Low beam 60W HB4/9006

Headlight adjustment

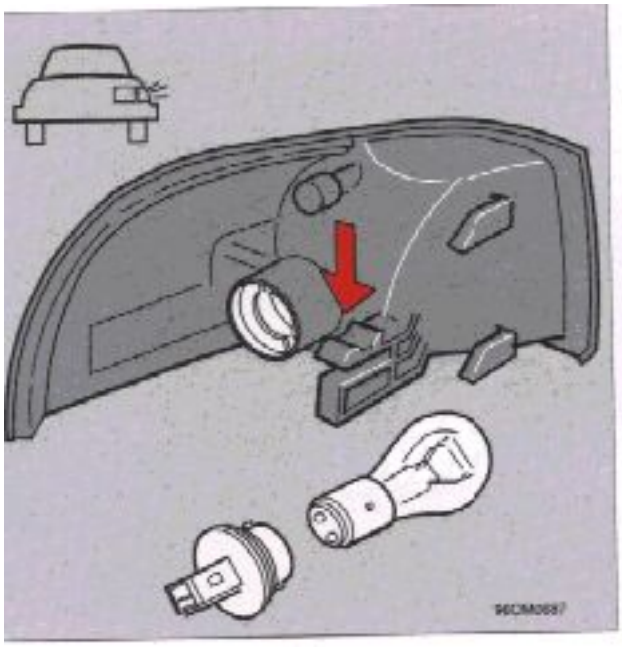
Th height of the headlight beams can be adjusted according to vehicle load. The headlights should be re-aimed if heavy loads are carried in the trunk/cargo area or rear seat, or when towing a trailer.
To adjust the headlights:
Park the car on a level surface and open the hood.
The headlights are equipped with a level which can be seen by looking through the clear "window" on the top of the headlight lens.
Turn the height adjustment knob (A) until the bubble in the level aligns with within the marking lines on

the level.



Lateral headlight adjustment (B) should only be carried out by an authorized Volvo retailer. This setting should be preset to "0".

pg. 6:6 Replacing bulbs

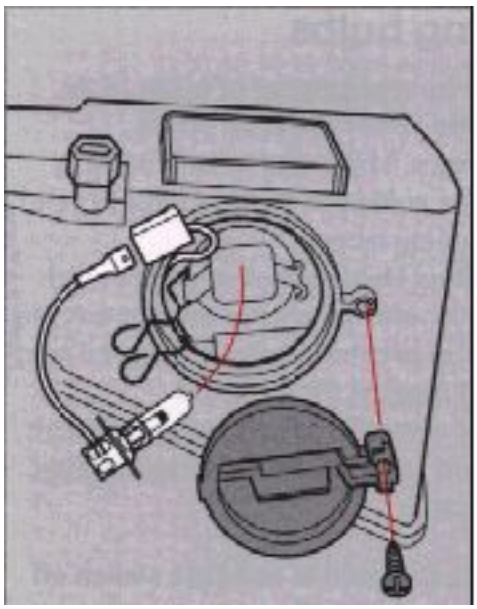


Turn signal/parking light/side marker light

1 To remove, turn the lamp holder 1/4 turn counter-clockwise.
2 Remove the bulb from the holder by pressing it down in the holder and turning it 1/4 turn counter-clockwise.
3 Insert a new bulb into the holder and reinstall the unit in the reverse order.

Power CP(W) Socket US Bulb No.
2412.2(21/5) BAY 15d 1157NA

NOTE: It may be necessary to remove the washer fluid reservoir fill tube in order to gain access to the bulb holder.



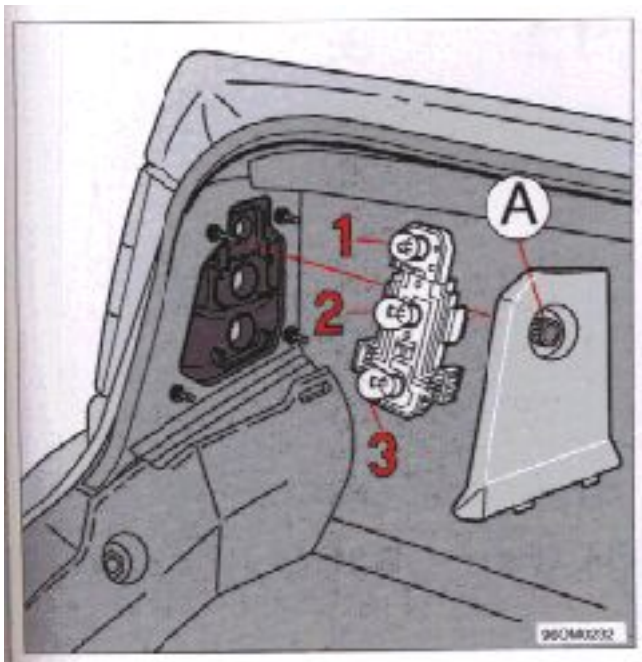
Cover (seen from under car)

Fog lamps

1. Release the cover with a Phillips screwdriver.
2. Remove the spring clips
3. Withdraw the bulb and connecting wire (one unit).
4. Connect the wire from the new bulb.
5. Insert the new bulb in the holder and press the spring clips into place.
6. Screw the cover into place.

Bulb Power US Bulb No.
H3 55W

pg. 6:7 Replacing bulbs, Sedans

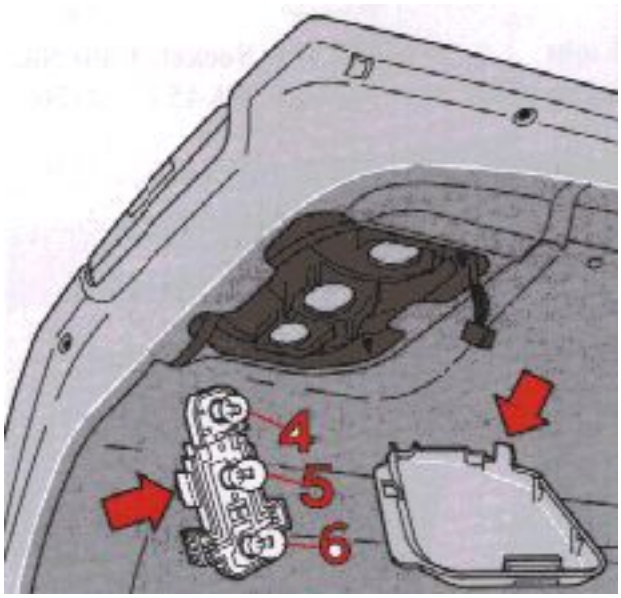


Outboard tail lights, driver's side

Replacing tail light bulbs (sedan models)

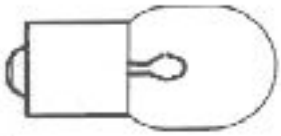
All tail lamp bulbs are replaced from inside of trunk. To avoid confusion, replace the bulbs one at a time.

- Switch off the lights and ignition.
- Outboard lights: Unscrew screw A and turn down the cover panel.
- Trunk lid: Lift the catch and fold down the cover panel.
- Remove the bulb holder.
- Remove bulb by pressing and turning 1/4 turn counter-clockwise.
- Insert a new bulb and fit the bulb holder in the tail light cluster. One of the plugs on the bulb holder is slightly wider than the other two.
- Turn the bulb holder clockwise to secure it. Check that the bulb lights and refit the cover.



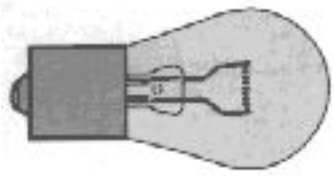
Tail lights in trunk lid, driver's side

1,4:



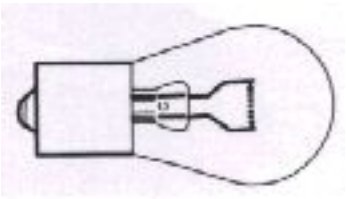
5W/4cp BA 15s

2



21 W BAU 15s

3,5,6:



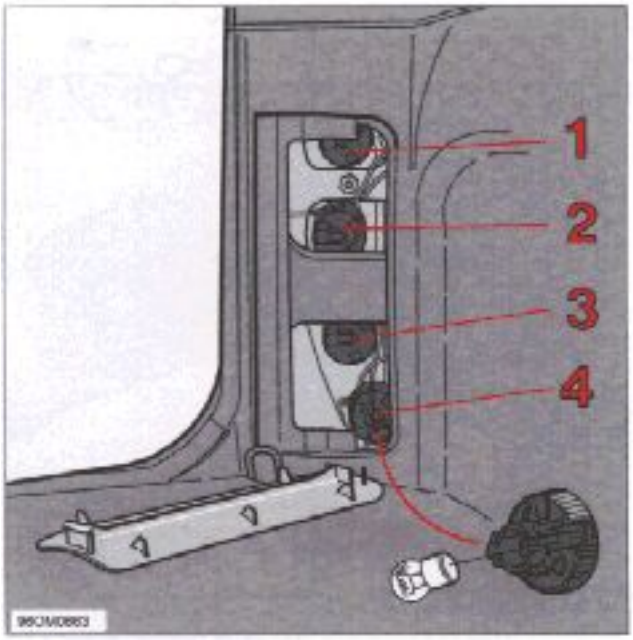
21 W/32 cp BA 15 s

Bulbs Power Socket US Bulb No
CP(W)

1,4 Tail light 4 (5) BA 15s 67
2 Rear turn signal (21) BAU 15s -
3 Brake light 32 (21) BA 15s 1156
5 Back-up light 32 (21) BA 15s 1156
6 Rear foglamp* 32 (21) BA 15s 1156

* Left (driver's) side only

pg. 6:8 Replacing bulbs



Replacing tail light bulbs (wagon models)

- Turn off the lights.
- Remove the cover with a screw driver.
- Rotate the bulb holder about 1/4" (0.6 cm) counterclockwise and remove the holder from the tail light cluster.
- Gently press the bulb into the holder, then rotate the bulb counterclockwise in order to release it.
- Install a new bulb in the holder and replace the bulb holder in the tail light cluster.

One of the guide lugs on the bulb holder is slightly wider than the other two and, thus, this lug fits into the widest recess only.

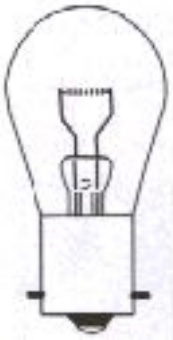
- Turn the bulb holder clockwise
- Check that the bulb lights

- Re-install cluster cover

Two types of bulbs are in use
The guide lugs on the twin-pole bulb are at different heights, and it is only possible to fit these bulbs in one way. Try at first to turn the bulb gently. Do not use force. If this does not work, take out the bulb and turn it half a turn and try again.

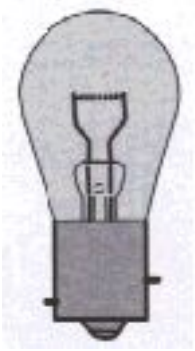
Light Power CP(W) Socket US Bulb No.
1 Fog light* 32(21) BA 15s 1156
2 Back-up lights 32(21) BA 15s 1156
3 Turn signals (21) BAU 15s -
4 Brake light and tail light 32/3(21/5) BAZ 15d 1157

1,2:



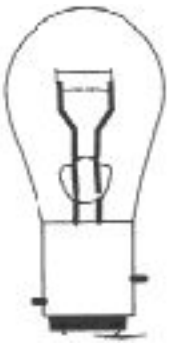
21 W
BA 15 s

3:



21 W
BAU 15 s

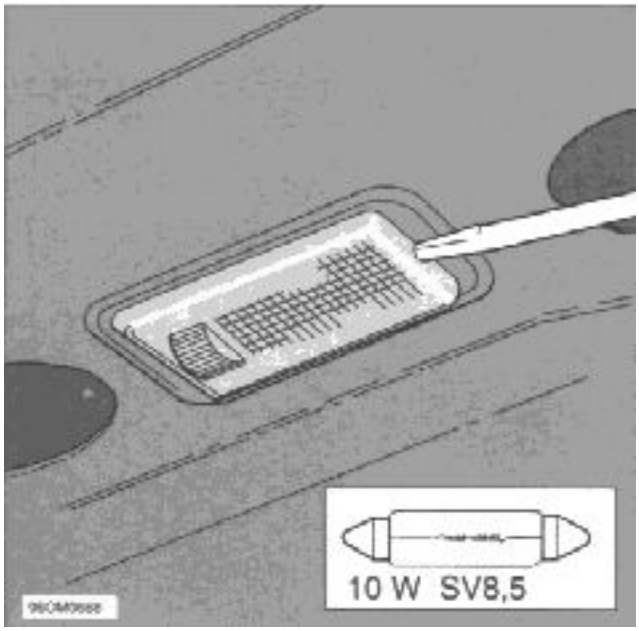
4:



21/5 W
BAY 15 d

* One light only, on driver's side

pg. 6:9 Replacing bulbs



Trunk light (sedan models)
Courtesy light (wagon models)

Depress the catch with a screwdriver and remove the light assembly. Lift it out to remove. Replace the bulb.

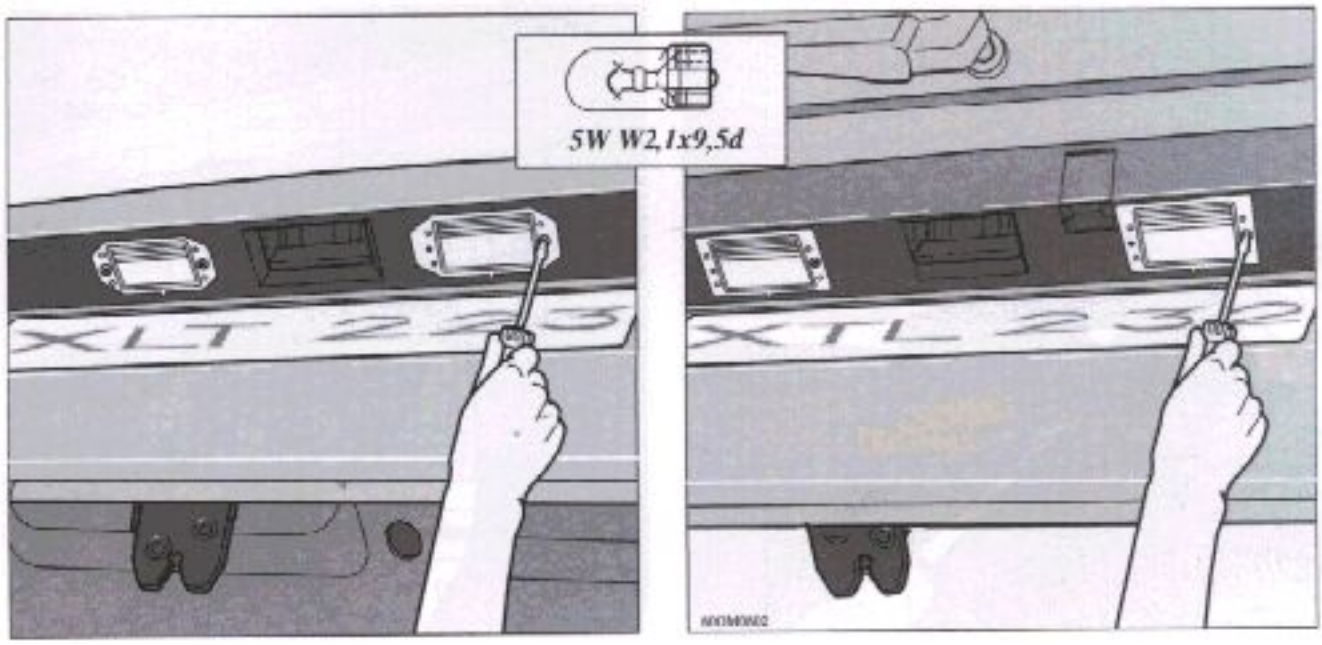
Bulb Power Socket
Trunk light 10 W SV 8.5

WARNING! When using a screwdriver to pry plastic components, take care to avoid scratching or breakage. Use eye protection whenever possible.

License plate light (sedan models)

Turn off the lights. Remove both screws and insert the screwdriver and turn it carefully (see illustration) until the glass comes loose. Replace the bulb and reinstall the glass.

Bulb Power Socket
License plate light 5W W 2.1x9.5d

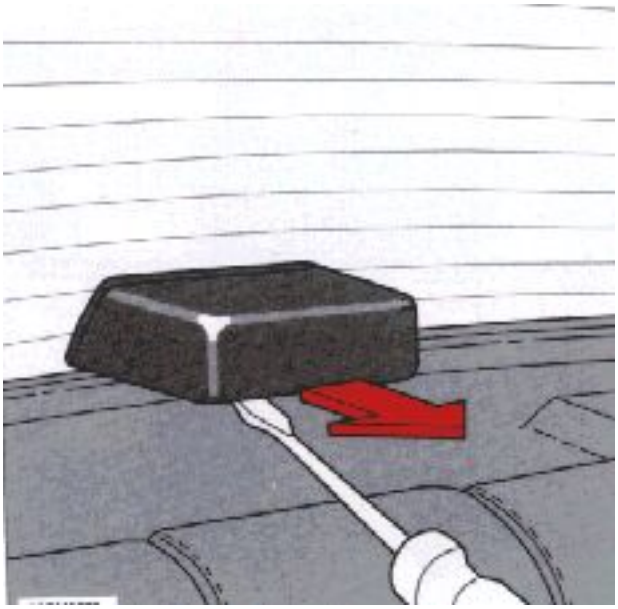


License plate light (wagon models)

Remove the screws with a screwdriver. Remove lamp housing. Depress the bulb and rotate it counter-clockwise. Remove the bulb. Install a new bulb and re-install lamp housing.

Bulb Power Socket
License plate light 4 W BA9s

pg. 6:10 Replacing bulbs



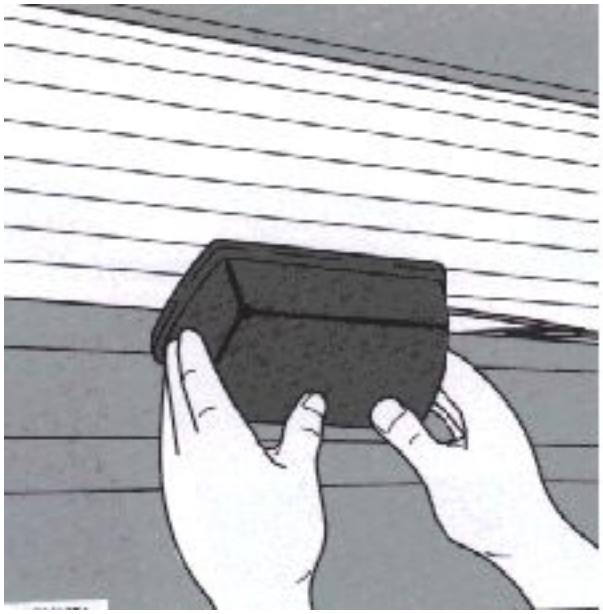
Removing cover (sedans)

High-mounted brake light

To remove: (Sedans)
Turn off ignition.
Depress catch with a screwdriver. Pull cover upward to remove it.

To remove: (Wagons)
Turn off ignition.
Grasp the cover with both hands and pull it towards you.

Bulb Power CP(W) Socket US Bulb No.
High-mounted brake light 32(21) BA15s 1156



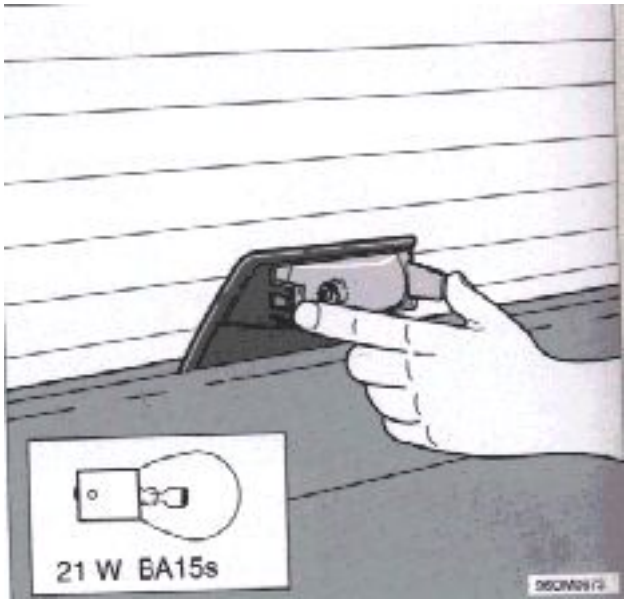
Removing cover (wagons)

Depress catches and fit new bulb.

To fit:
Fit the reflector and check that the light works.

4-door models
Press the cover into position, noting the position of the alignment pin at the top.

Wagons
Align the catches and press the cover into position.



Depress catches

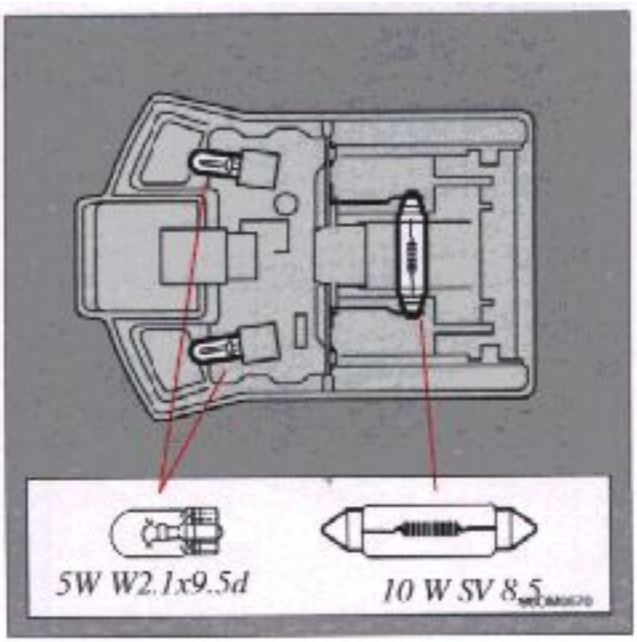
pg. 6:11 Replacing bulbs

Interior light and reading lights

Take hold of the front section of the light as shown and pull straight down.

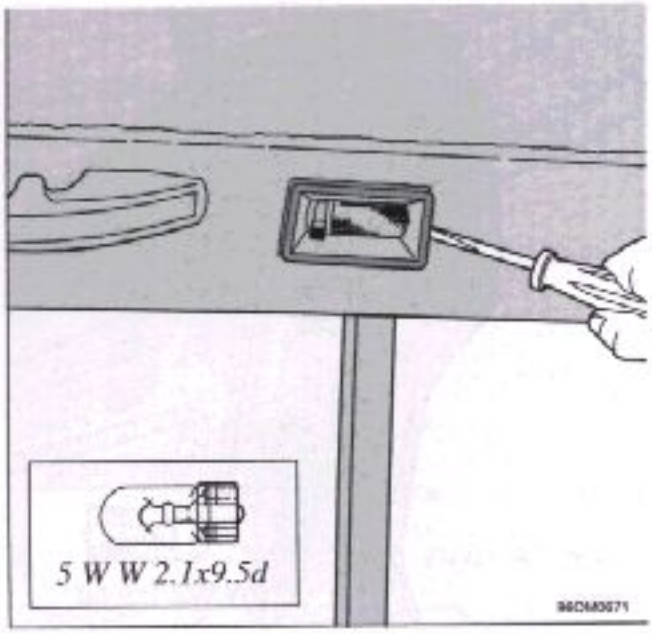
Press lens out from inside and replace bulb. Check operation before reinstalling lamp housing.

NOTE:
The wiring should not be pinched when the lamp housing is reinstalled.



Reading light *Interior light*

Bulb Power Socket
Interior light 10 W SV 8.5
Reading light 5 W W 2.1x9.5d



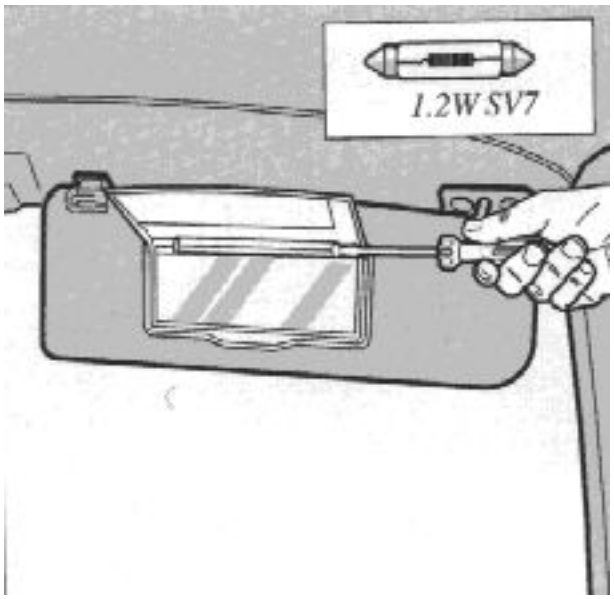
Reading lamps, rear

The bulb in the adjustable reading lamps can be changed as follows: insert a screwdriver as shown and twist off the lamp. Withdraw the bulb and fit a new one.

pg. 6:12 Replacing bulbs

Door warning lamps

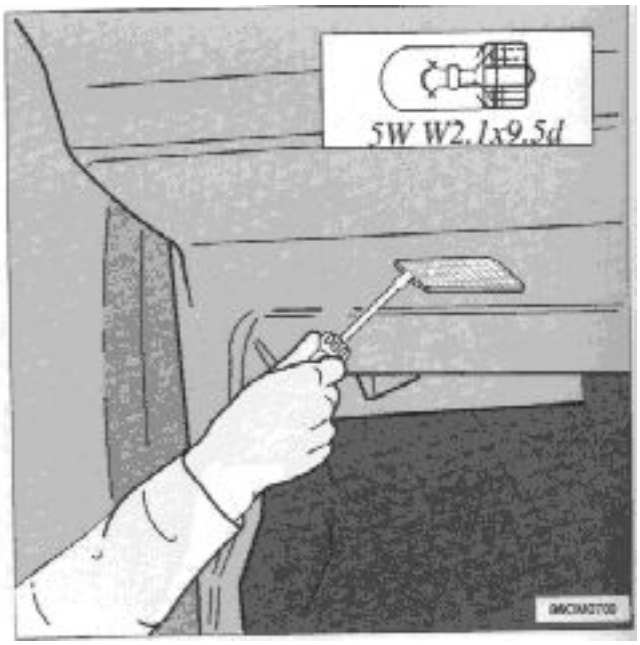
All doors are equipped with red warning lamps. To replace a bulb, insert a screwdriver as shown in picture and gently turn it to remove the lens. Withdraw the bulb, replace it and re-insert the lens.



Insert screwdriver and turn

Vanity mirror

Insert a screwdriver and turn it to remove the lens. Replace the bulb and press the lens back into place.



Door step courtesy lights

- Insert a screwdriver and turn carefully to loosen the glass lens.
- Withdraw the lamp unit, bend back the tabs and remove the plate.
- Replace the bulb.
- Reinstall the plate.
- Press the lamp unit back into place.

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pg. 6:13 Fuses

Fuses

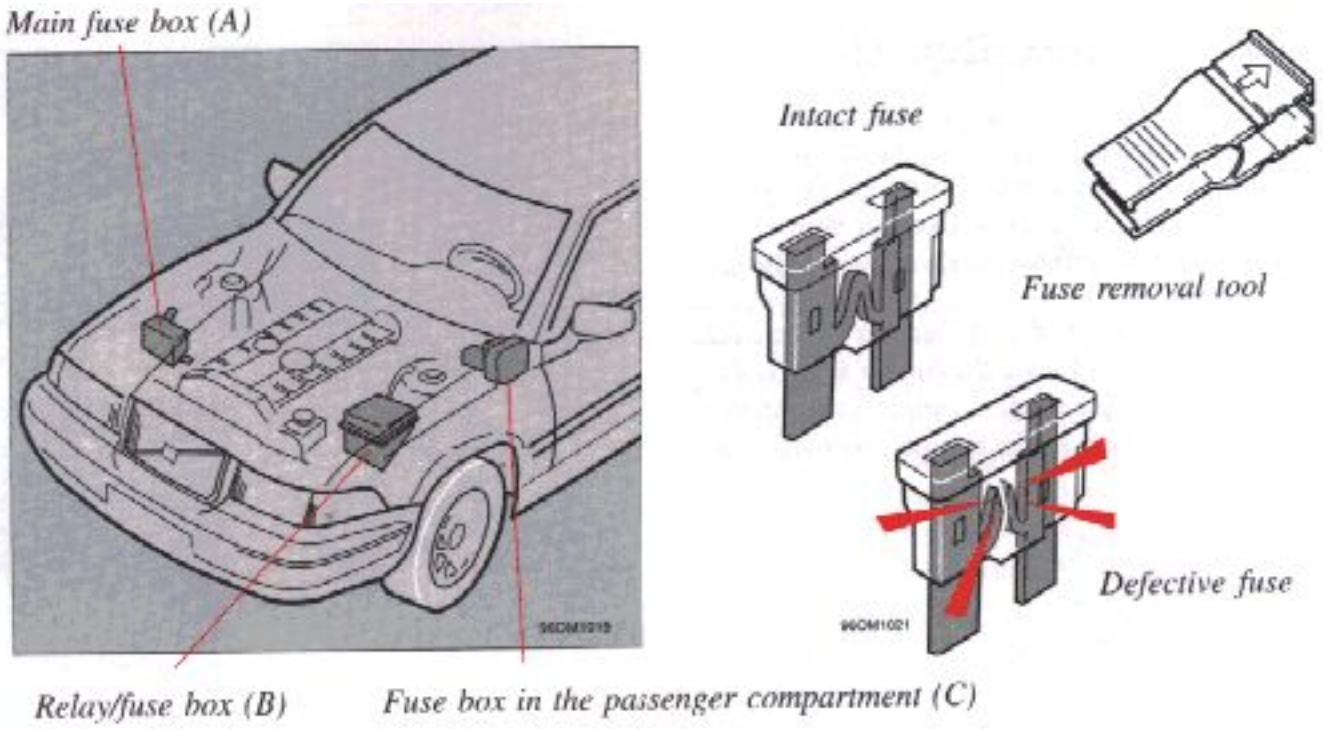
In order to prevent damage to the electrical system as a result of short circuits or overloading, all electrical functions and components are protected by a number of fuses .

The fuses are located in three different places in the car:

Fuses in the main fuse box (A) protect the entire electrical supply system.

Fuses in the relay/fuse box (B) protect the electrical functions and components in the engine compartment.

The fuse box in the passenger compartment (C) contains the fuses which protect the various functions in the interior of the car.



Fuse replacement

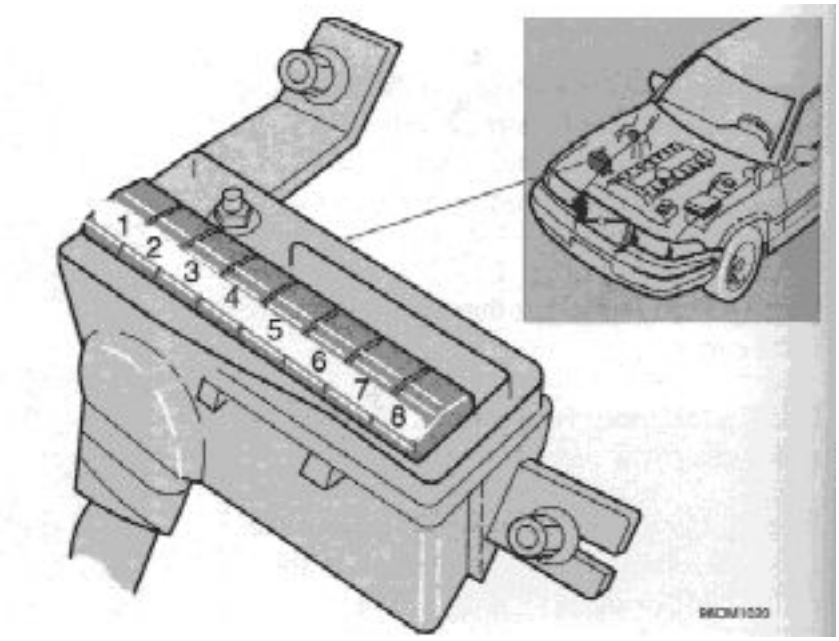
If an electrical component fails to function, it is likely that a fuse has blown due to an overloaded circuit. Pull out the fuse and look at it from the side to see if there is a break in the curved wire. If there is, install a new fuse of the same amperage and color.
A number of spare fuses are located in the fuse box in the passenger compartment. There is also a fuse removal tool to help with the removal and replacement of fuses.

pg. 6:14 Fuses

Main fuse box (Box A)

Fuses in the main fuse box protect the entire electrical system. If one of the fuses blows, there is a serious electrical fault. Do not change any of these fuses. Contact your nearest Volvo workshop for a closer analysis.

When checking whether a fuse has blown, you should first try to locate the blown fuse in the fuse box in the passenger compartment or in the relay/fuse box in the engine compartment.

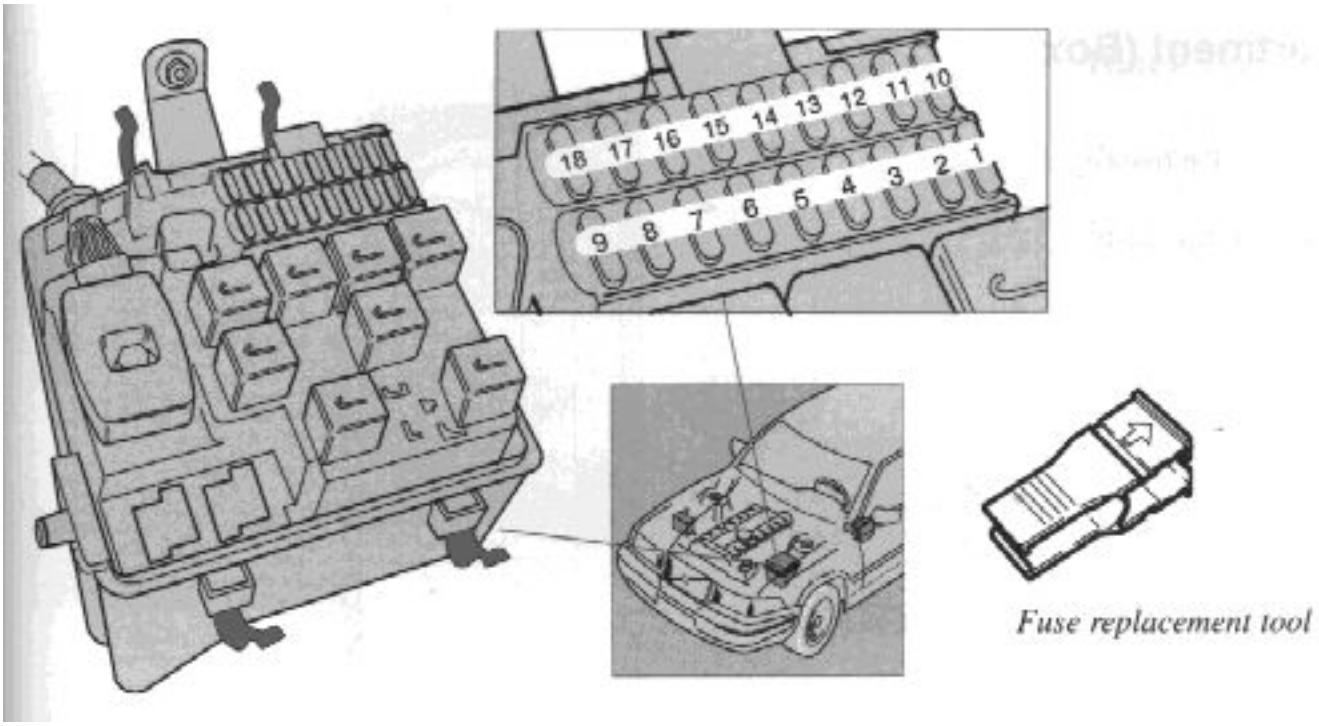


Location* Amperage
1 Heated rear window, Central locking system, Power Supply Relay "B" Ignition switch 50
2 Audio, power seats, Hazard warning flashers, Compartment Lights, Power Antenna, Trailer Power, 50

3 Power Supply Relay "A" 50
4 Fuel System Relay, Ignition System Relay 50
5 ABS-unit 50
6 Air pump, Starter Solenoid, Horn 50
7 Electric Cooling Fan 50
8 Pos./parking Light Relay, Headlight Relay, Fog light relay 50

* Some of the equipment/systems listed may be available on certain models only and/or as optional items only.

pg. 6:15 Fuses



Fuse replacement tool

Location* Amperage
1 Engine control module, Automatic transmission control module 5
2 AC relay 5
3 Relay, air pump, Heated oxygen sensor 15
4 Fuel pump 15
5 Fuel injection, Mass air flow (MAF) sensor, Idle air control system, Engine control module 15
6 Automatic transmission control module 15
7 Ignition coil 25
8 Foglights 25
9 Spare
10 Positioning/parking lights,left 15
11 Positioning/parking lights, right 15

12 Left high beam 15
13 Right high beam, Instrument panel 15
14 Left low beam 15
15 Right low beam 15
16 A/C compressor 15
17 Horn 15
18 Accessories (see respective accessories instructions)

* Some of the equipment/systems listed may be available on certain models only and/or as optional items only.

Relay/fuse box (Box B)

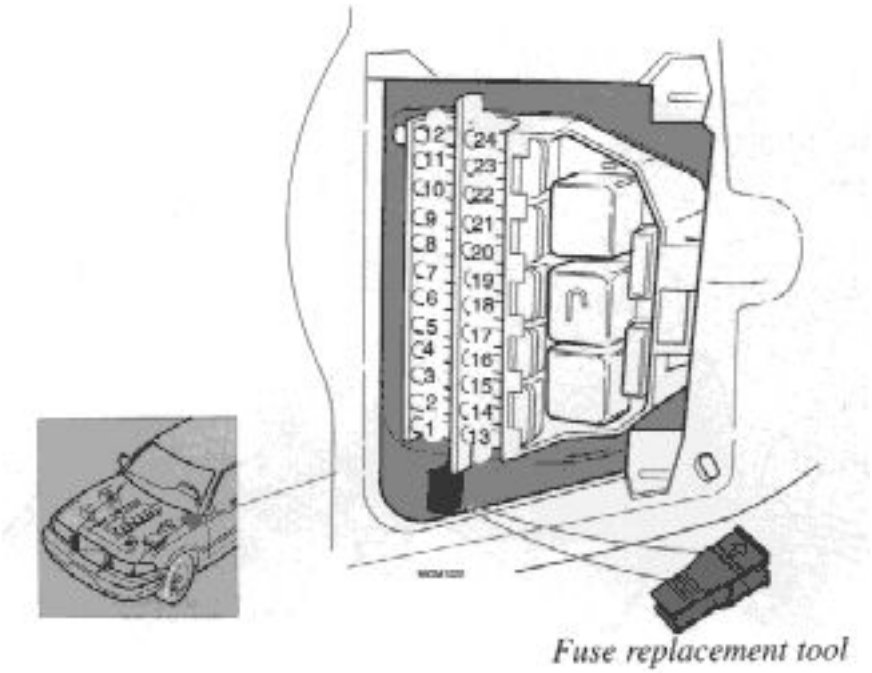
The fuses in the relay/fuse box generally protect the electrical components in the engine compartment.

The fuses are located under the cover in the relay/fuse box. Undo the four clamps and pull out the fuse you want to check. Look at the fuse from the side to see if there is a break in the curved wire. Should you need to replace a fuse, you will find spare fuses in the central fuse box in the passenger compartment. Replace the blown fuse with a new one of the same amperage and color. Never use a fuse with a higher amperage! There are a pair of pliers, to help when replacing fuses, in the central fuse box in the passenger compartment.

pg. 6:16 Fuses

Fuse box in the passenger compartment (Box C).

These fuses generally protect the electrical components in the passenger compartment.
The fuses are located inside the cover on the left side of the dash . A number of spare fuses can also be found here. Fuses are replaced in the same way as in the relay/fuse box in the engine compartment (see previous page).



Fuse replacement tool

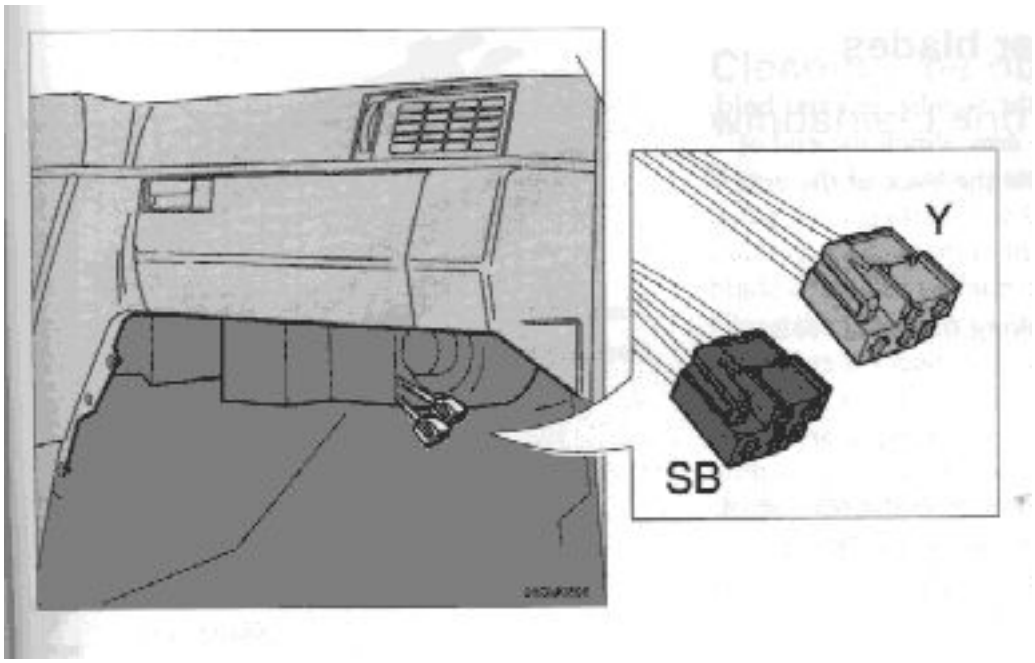
Location ** Amperage
1 Heated rear window 25
2 Central locking 20
3 Brake light, Light switch 15
4 Ignition switch, SRS 10
5 Spare
6 Windshield wiper/washer, Headlight wiper, horn relay 25
7 Climate unit 20
8 Power seats, Power side door mirrors, Tailgate wiper/washer (wagons), Instrument lighting, Ambient temp. sensor 15
9 Audio system 15
10 Cigarette lighter 15
11 Interior lighting, Transmission mode selector 5
12 ABS 5
13 Clock, Interior/glove compartment lighting, Door open warning lights, Cargo space lighting, Vanity mirror 10
14 Alarm, Horn 10
15 Power antenna, Headlight flasher, Trailer 20
16 Accessories 20
17 Hazard warning flasher, Direction indicator, Alarm hazard indication 20
18 Audio/amplifier, CD changer 15
19 Backup lights, Turn indicators, Cruise control 15
20 Light switch, High/low beam relay 15
21 Seat belt reminder, Timer-electrically heated rear window 5
22 Heated driver's seat 15
23 Heated passenger's seat 15

24 Rear foglights 5
25 Power seats* 30
26 Power windows, Power sunroof* 30

* Automatic circuit breakers

** Some of the equipment/systems listed may be available on certain models only and/or as optional items only.

pg. 6:17 Installation of accessories



Installation of telephone and accessories

In order to avoid interference and damage to your car's electrical system, your car is supplied with two connectors for the installation of a telephone and other electrical accessories. The two connectors are located beneath the glove compartment behind the soundproofing label.

When installing the accessories or the telephone, contact an authorized Volvo workshop.

Black connector (for accessories)

Position	Connection	Max. load
1	Earth (31)	4 A
2	High beam (56 A)	1 A
3	Rheostat (PR)	1 A
4	Battery + (30)	16 A*

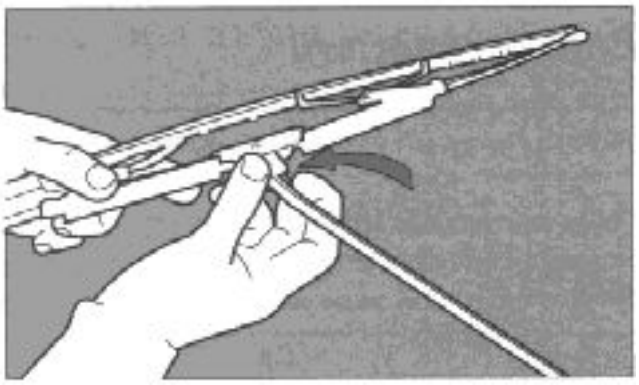
Yellow connector (for telephone)

Position	Connection	Max. load
1	Earth (31)	4 A
2	Ignition positions I and II	1 A
3		
4	Battery + (30)	16 A*

* The maximum combined load for Position 4 - black connector + Position 4 - yellow connector is 16A.

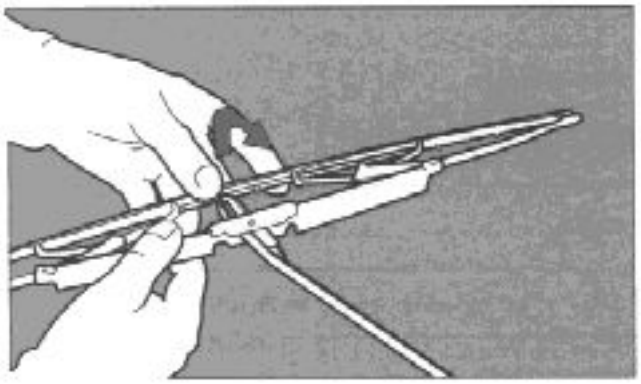
pg. 6:18 Replacing wiper blades

Replacing wiper blades



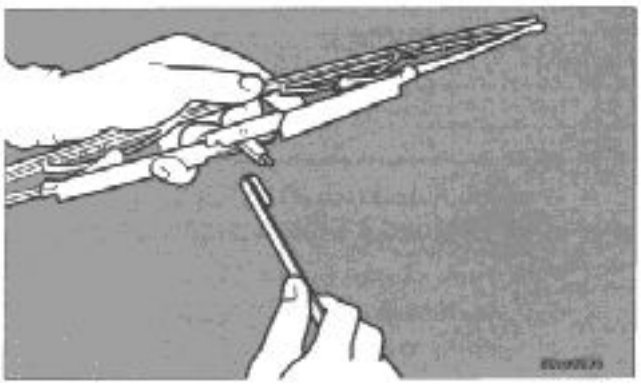
Lift the wiper arm off the windshield and hold blade at right angles to arm. Pinch the end of the plastic clip located at the back of the arm.

Slide the wiper blade along the arm to release it from the hook.

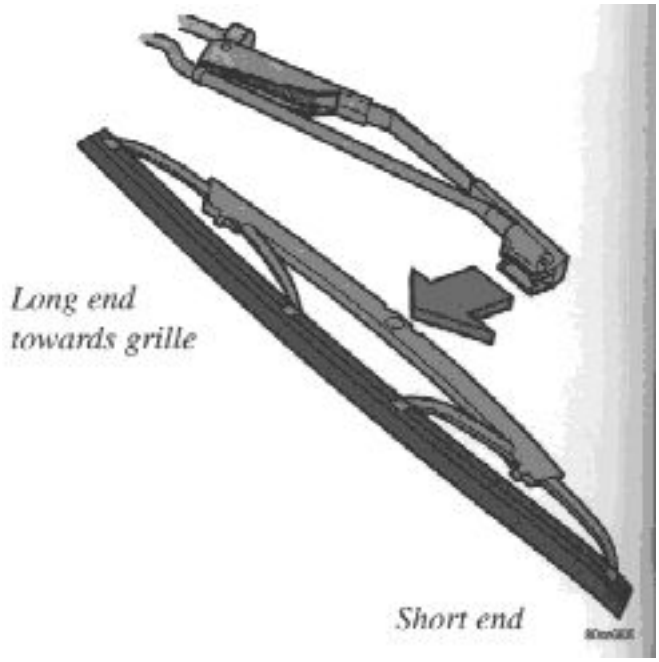


Install new blade (installation is the reverse of removal) and make sure that it is properly attached to the wiper arm.

For reasons of safety, you should change the windshield wiper blades as soon as they start to leave marks on the windshield or fail to wipe efficiently and cleanly.



To obtain maximum lifetime from a set of wiper blades, clean them with a stiff-bristle brush and warm, soapy water as part of a normal car wash.



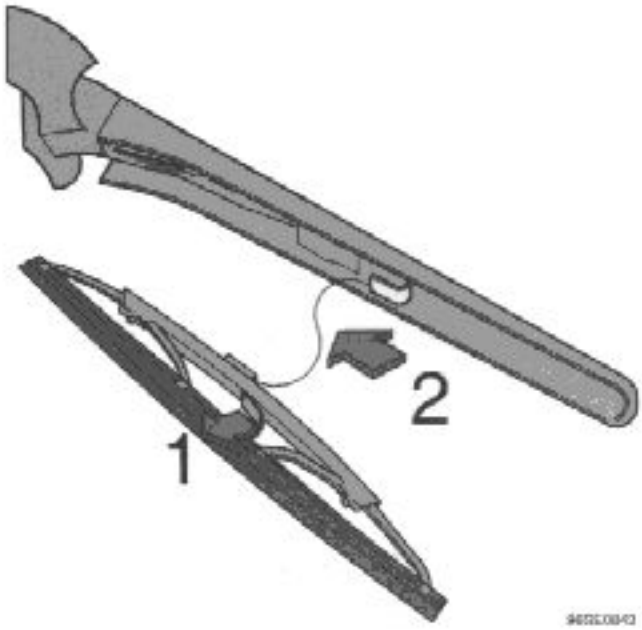
Replacing headlight wiper blades (certain models)

Pull the wiper blade in the direction indicated by the arrow in illustration to remove it. Press the new blade into place. Check that the new blade is properly attached to the wiper arm.

pg. 6:19 Replacing wiper blades

Cleaning the outside of the wiper blades

If the windshield/tailgate is not clear after using the wiper(s) or if the blade chatters when running, wax or other material may be on the blade or on the surface of the glass.
Clean the glass with a suitable cleaning agent. The glass is clean if beads do not form when you rinse it with water.
Clean the wiper blade by wiping vigorously with a cloth soaked in full strength windshield washer solvent. Then rinse the blade with water.
Wiper blades should be checked on a regular basis and replaced when worn.



Tailgate wiper (wagons)

1. Pull out the wiper arm. Press the lock knob outwards.
2. Push the wiper inwards towards the middle and remove. Fit the new wiper blade in the reverse order to the above instructions.

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Car care

pg. 7:1 Car care

Car care includes not only maintaining the appearance of the car, but also protecting the car exterior from the effects of air pollution, rain and mud.

The rustproofing compound under the car should be checked regularly and, if necessary, damaged areas should be repaired.

The paintwork should also be touched up immediately, if damaged, to prevent rust formation.

pg 7:2 Cleaning the upholstery

Cleaning the upholstery

The fabric can be cleaned with soapy water or a detergent. For more difficult spots caused by oil, ice cream, shoe polish, grease, etc.., use a clothing/clothing fabric stain remover.
The plastic in the upholstery can be washed with soapy water or a mild detergent. Leather upholstery can be cleaned with a soft cloth and mild soap solution. For more difficult spots, Volvo offers a leather care kit. On no account must gasoline, naphtha or similar cleaning agents be used on the plastic or the leather since these can cause damage.

Cleaning the seat belts

Clean only with lukewarm water and mild soap solution.

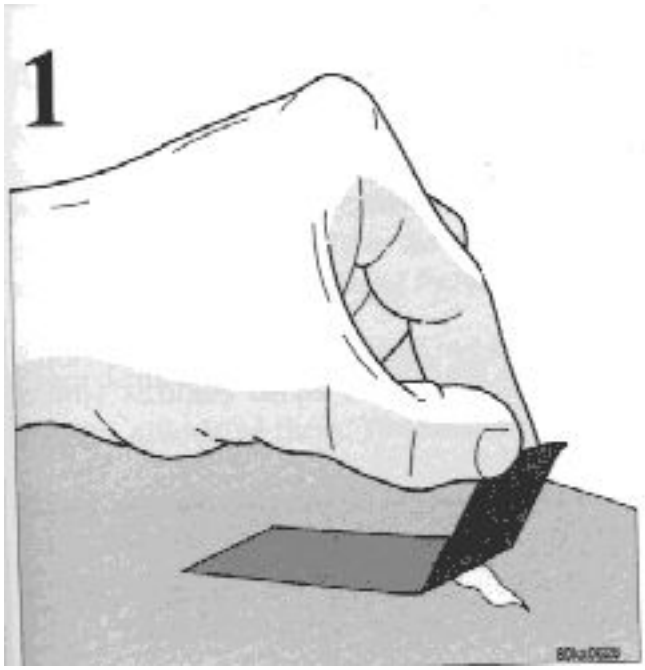
Cleaning floor mats

The floor mats should be vacuumed or brushed clean regularly, especially during the winter when they should be taken out for drying. Spots on textile mats can be removed with a mild detergent.

Bear in mind

- Take extra care when removing stains such as ink or lipstick since the coloring can spread.
- Use solvents sparingly. Too much solvent can damage the seat padding.
- Start from the outside of the stain and work toward the center.

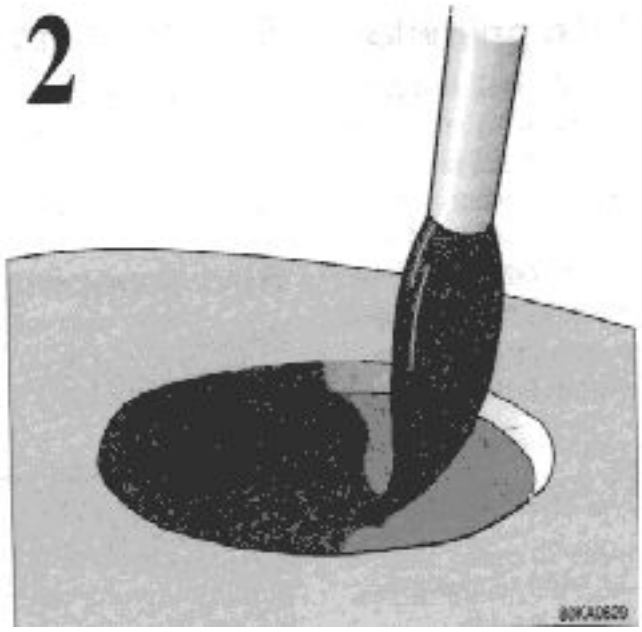
pg. 7:3 Paint touch-up



Paint touch-up

Paint damage requires immediate attention to avoid rusting. Make it a habit to check the finish regularly; when washing the car for instance. Touch up if necessary. Paint repairs require special equipment and skill. Contact your Volvo retailer for any extensive damages.
Minor scratches can be repaired by using Volvo touch-up paint.

NOTE: When ordering touch-up paint from your Volvo retailer, use the paint code indicated on the model plate. The plate is located on the panel above the right-side head lights.

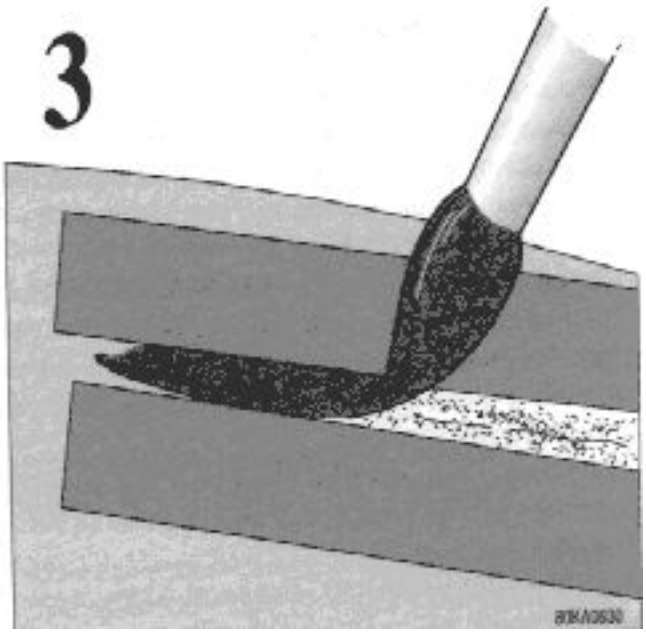


Minor stone chips and scratches

Material:
Primer - can
Paint - touch-up bottle
Brush
Masking tape

Scars on the surface

If the stone chip has not penetrated down to the metal and undamaged layer of paint remains, the touch-up paint can be applied as soon as the spot has been cleaned.



Deep scars

If the stone chip has been penetrated down to the metal, proceed as follows:
1 Place a strip of masking tape over the damaged surface. Pull the tape off so that any loose flakes of paint adhere to it.
2 Thoroughly mix the primer and apply it with a small brush.
When the primer surface is dry, the paint can be applied using a brush.
Mix the paint thoroughly: apply several thin paint coats and let dry each application.
3 If there is a longer scratch, you may want to protect surrounding paint by masking it off.

NOTE: When touching up the car, it should be cleaned and dry. The surface temperature should be above 60°F (+15°C).

pg. 7:4 Washing

Washing the car

The car should be washed at regular intervals since dirt, dust, insects and tar spots adhere to the paint and may cause damage.
When washing the car, do not expose it to direct sunlight. Use lukewarm water to soften the dirt before you wash with a sponge, and plenty of water, to avoid scratching.
A detergent can be used to facilitate the softening of dirt and oil. A water-soluble grease solvent may be

used in cases of sticky dirt. However, use a washplace equipped with a drainage separator. Dry the car with a clean chamois and remember to clean the drain holes in the doors and rocker panels.
The power radio antenna must be dried after washing.
Tar spots can be removed with kerosene or tar remover after the car bas been washed.
A stiff-bristle brush and lukewarm soapy water can be used to clean the wiper blades. Frequent cleaning improves visibility considerably.

NOTE:

- During high pressure washing the spray mouth piece must never be closer to the vehicle than 13" (30 cm). Do not spray into the locks.
- It is particularly important to wash the car frequently in the wintertime to prevent corrosion, when salt has been used on the roads.
- Bumpers: Wash the bumpers with the same cleaning agent used on the rest of the car. Never clean the bumpers with gasoline or paint thinner. Difficult spots can be removed with denatured alcohol. To avoid scratches, do not dry the bumpers with paper.

Also wash off the dirt from the underside (wheel housings fenders, etc..) In areas of high industrial fallout more frequent washing is also recommended.

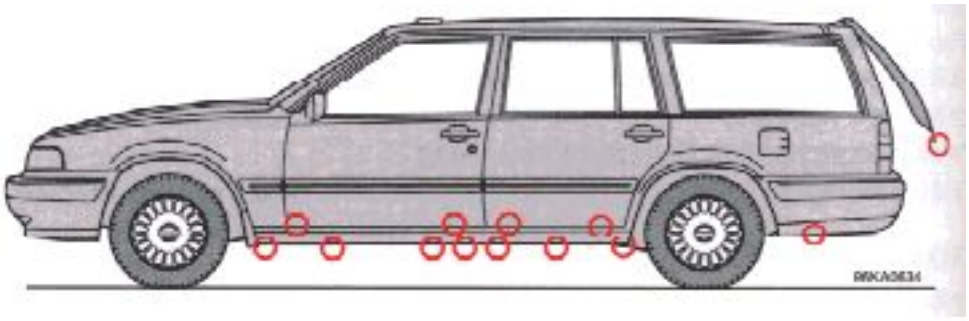
Suitable detergents

Special car washing detergents or liquid dishwashing detergent can be used. A suitable mixture is about 2.5 fl. oz. (8.5 cl.) of detergent to 2.6 US gal. (10 liters) of warm water. After washing with a detergent the car should be well rinsed with clean water.

Bird droppings

Remove from paintwork as soon as possible. Otherwise the finish may be permanently damaged.

WARNING!
When the car is driven immediately after being washed, apply the brake several times in order to remove any moisture from the brake linings.
Engine cleaning agents should not be used when the engine is warm. This constitutes a fire risk.



NOTE: When washing the car, remember to remove dirt from the drain holes in the doors and sills.

pg. 7:5 Automatic car washing, Polishing and waxing, Chromed parts

Automatic washing - simple and quick

An automatic wash is a simple and quick way to clean your car, but it is worth remembering that it may not be as thorough as when you go over the with sponge and water. Keeping the underbody clean is most important, especially in the winter. Some automatic washers do not have the facilities for washing the underbody.

Before driving into an automatic wash, make sure that the side view mirrors, auxiliary lamps, etc.., are secure, otherwise there is risk of the machine dislodging them. You should also lower the antenna.

We recommend that you do not wash your car in an automatic wash during the first six months (because the paint will not have hardened sufficiently).

Polishing and waxing

Normally, polishing is not required during the first year after delivery, however, waxing may be beneficial.

Before applying polish or wax the car must be washed and dried. Tar spots can be removed with kerosene or tar remover. Difficult spots may require a fine rubbing compound.

After polishing use liquid or paste wax.

Several commercially-available products contain both polish and wax. Waxing alone does not substitute for polishing of a dull surface.

A wide range of polymer-based car waxes can be purchased today. The waxes are easy to use and produce a long-lasting, high-gloss finish that protects the bodywork against oxidation, road dirt and fading.

Chromed parts

Chromium-plated and anodized parts should be washed with clean water as soon as they become dirty. This is particularly important if you drive on gravel roads or on roads where salt is used during the winter. After the car has been washed, apply wax or an anti-rust preparation.
Stains on chrome trim can be removed with commercially-available chrome cleaner. Do not use abrasive compounds or steel wool.

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7:2 Cleaning the upholstery

7:3 Paintwork damage

7:4 Washing the car

Volvo service

pg. 8:1 Volvo Service

Service - an investment!

An investment which will pay dividends in the form of improved reliability, durability, and resale value.

8:2 Label Information
8:3 Maintenance service, Warranty
8:4 Maintenance schedule
8:6 Engine oil
8:8 Exhaust Emission Service
8:13 Engine compartment
8:14 Lubrication, body
8:15 Power steering fluid, brake fluid
8:16 Drive belt
8:17 Cooling system
8:18 Washer fluid reservoir/nozzles

pg. 8:2 Label information

1 Vehicle Identification Number (VIN) *

VIN plate is located on top left surface of dashboard. The VIN is also stamped on the right hand door pillar.

2 Vehicle Emission Control Information

Your Volvo is designed to meet all applicable emissions standards, as evidenced by the certification label on the left wheelhousing. For further information regarding these regulations, please consult your

Volvo retailer.

3 Model Plate

Vehicle Identification Number (VIN). Codes for color and upholstery etc.. This plate is located on panel-above right headlight.

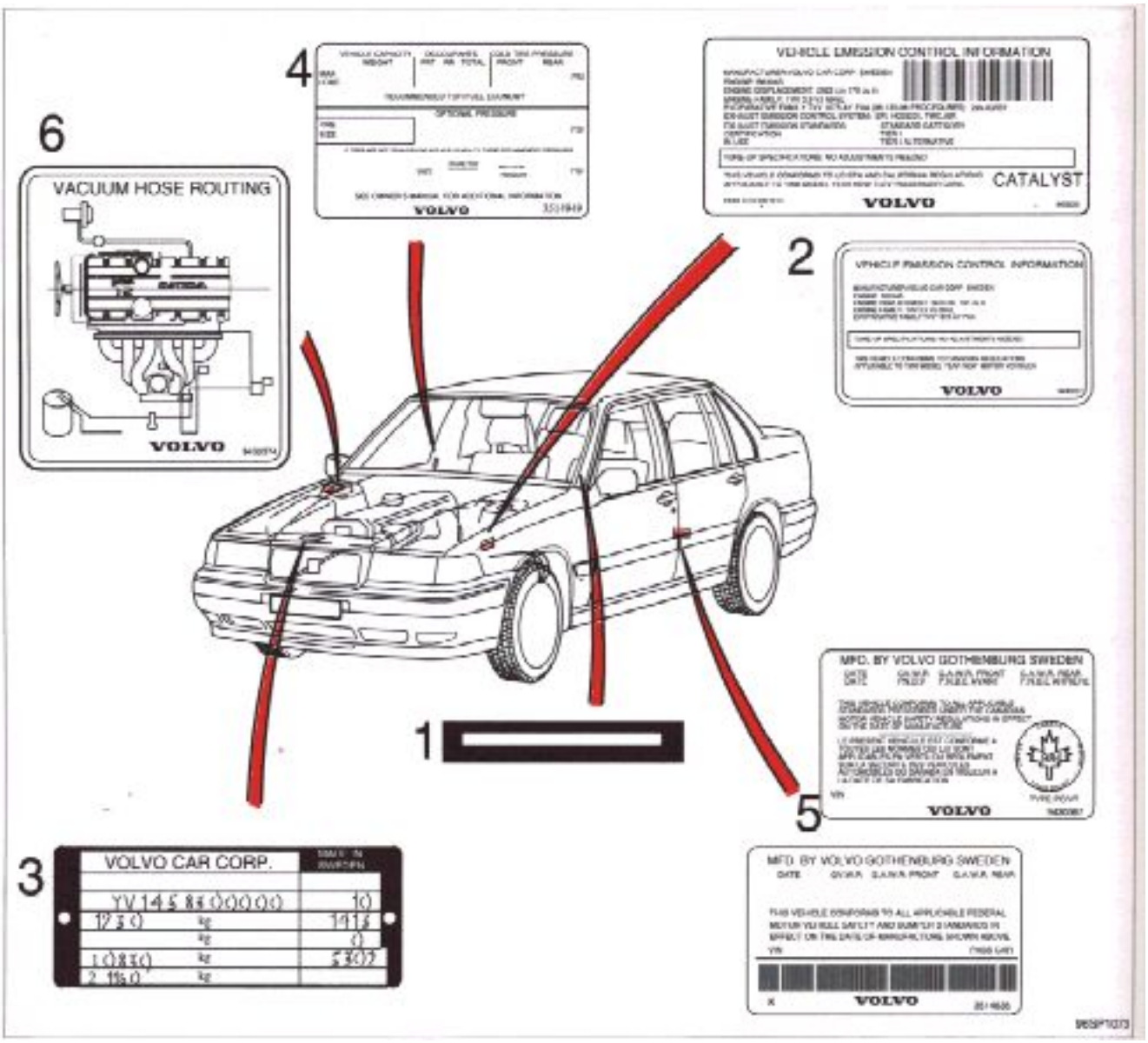
4 Loads and Tire Pressures

Located on the rear edge of right front door.

5 Federal Motor Vehicle Safety Standards (FMVSS) specifications (USA) and Ministry of Transport (CMVSS) Standards (Canada)

Your Volvo is designed to meet all applicable safety standards, as evidenced by the certification label on the rear facing side of the driver's door. For further information regarding these regulations, please consult your Volvo retailer.

6. Vacuum hose routing



* The Vehicle Identification Number (VIN) should always be quoted in all correspondence concerning your vehicle with the retailer and when ordering parts.

All specifications are subject to change without notice.

pg. 8:3 Maintenance service, Warranty

Maintenance service

Volvo advises you to follow the service program which is outlined in the "Maintenance Records Manual". This maintenance program contains inspections and services necessary for the proper function

of your car.
The maintenance services contain several checks which require special instruments and tools and therefore must be performed by a qualified technician.
To keep your Volvo in top condition, specify time tested and proven Genuine Volvo Parts and Accessories.

The Federal Clean Air Act - U.S.

The Clean Air Act requires vehicle manufacturers to furnish written instructions to the ultimate purchaser to assure the proper functioning of those components that control emissions.
The maintenance instructions listed in the "Servicing" section of this Manual represent the minimum maintenance required. These services are not covered by the warranty. You will be required to pay for labor and material used. Refer to your Warranty booklet for further details.

Maintenance services

Your Volvo has passed several major inspections before being delivered to you, according to Volvo specifications. The maintenance services outlined in this book should be performed as indicated. The extended maintenance service intervals make it even more advisable to follow this program. Inspection and service should also be performed any time a malfunction is observed or suspected.
It is recommended that receipts for vehicle emission services be retained in the event that questions arise concerning maintenance. See your "Maintenance Records Manual".

Applicable warranties - U.S.

In accordance with U.S. Federal Regulations, the following list of applicable U.S. warranties is provided. For Canadian specification vehicles, see your separate warranty booklet.

- New Car Limited Warranty
- Parts and Accessories Limited Warranty
- Corrosion Protection Limited Warranty
- Seatbelt and Supplemental Restraint Systems Limited Warranty
- Emission Design and Defect Warranty
- Emission Performance Warranty

These are the Federal warranties; other warranties are provided as required by state law.

Refer to your separate Warranty booklet for detailed information concerning each of the warranties.

pg. 8:4 Maintenance schedule

Maintenance schedule

A = Adjust (Correct if necessary) I = Inspect (Correct or Replace if necessary)
R = Replace L = Lubricate

Maintenance Operation thousand miles (thousand km)	5 [3] (8)	10 (16)	15 [3] (25)	20 (32)	25 [3] (40)	30 (48)	35 [3] (56)	40 (64)	45 [3] (72)	50 (80)	55 [3] (88)	60 [2] (96)
EMISSION SYSTEM MAINTENANCE												
Engine oil and filter [1]	R [3]	R	R [3]	R	R [3]	R	R [3]	R	R [3]	R	R [3]	R
Engine drive belt accessory belt)						I						I
Air cleaner filter						R						R
Spark plugs						R						R
Automatic transmission fluid		I		I		I		I		I		I
Timing belt - B 6304 F, B 6254 F [4]												

1) See section "Engine oil" for detailed information.

NOTE: The oil should be changed at these intervals or after 750 hours of driving or after 12 months which ever occurs first. See "Service Reminder indicator", page 1:5.

2) For services beyond 60,000 miles (96,000 km), consult your "Maintenance records booklet".
3) These intervals may apply, depending on actual driving conditions (see page 8:7 for details)
4) For proper functioning of the vehicle and its emission control system, Volvo recommends that the timing belt be replaced every 70,000 (112,000 km).

pg. 8:5 Maintenance schedule

Maintenance Operation thousand miles (thousand km)	10 (16)	20 (32)	30 (48)	40 (64)	50 (80)	60 (96)
MISCELLANEOUS MAINTENANCE						
ENGINE						
Fuel (Line) Filter [1]						
>PCV Nipple (Orifice)/hoses,clean						I
Battery	I	I	I	I	I	I
BRAKES						
Inspect Brakes, Replace components as necessary	I	I	I	I	I	I
Brake Fluid [2]						
>STEERING						

Rotate tires/check tire wear; (Align if needed.)	I	I	I	I	I	I
Check power steering fluid level.	I	I	I	I	I	I
BODY						
Power antenna (clean)	I	I	I	I	I	I
Trunk, Hood Hinges and Latches	L	L	L	L	L	L
Sun roof	L	L	L	L	L	L

1) Replace at 100,000 miles (160,000 km).
2) Brake fluid should be changed at owner request every second year (once a year if the car is driven in mountainous areas or in areas with high humidity).

The following items should be checked weekly by the driver (it takes only a few minutes):
Engine oil level Windshield wipers Cleaning
Brake fluid level Level of windshield washer fluid Rust protection
Radiator coolant level The following should also be carried out at
Tire pressure (all five tires) regular intervals:
Operation of all lights Washing
Horns Polishing

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pg. 8:6 Engine oil

Checking the oil level

The oil level should be checked every time the car is refuelled.
This is especially important during the engine break-in period (up to the first service).

CAUTION : Not checking the oil level regularly can result in serious engine damage if the oil becomes too low.

Be sure the oil level is maintained between the upper and lower marks on the dip-stick. Low oil level can cause internal damage to the engine and over-filling can result in high oil consumption. The distance between the dipstick marks represents approx. 1 US qt (1 liter) of oil.
Before checking the oil level after the car has been driven, park the car on a level surface and wait at least 5 minutes after the engine has been switched off. The oil level should be half-way between the MIN and MAX marks.
If the oil is checked before the car is driven (engine completely cold) the oil level should be at the MAX mark.

NOTE: The engine must be stopped when checking the oil.

Draining the oil

Drain the oil after driving while it is still warm.

WARNING! The oil may be very hot.

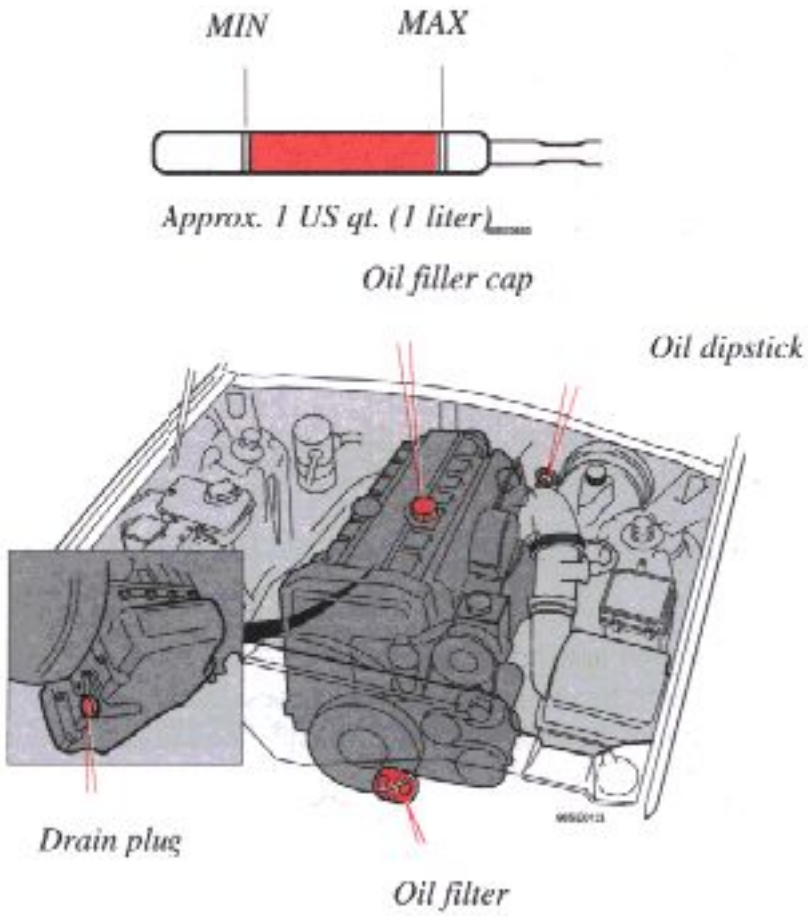
If you change the engine oil and filter yourself, your Volvo retailer can assist you in disposing of the used oil. Engine oil can be harmful to your skin - gloves should worn when performing this work.

To add or change engine oil

Add oil of the same kind as already used.
Capacity (including filter): 5.9 US qts = 5.75 liters.

Changing oil filter

Replace the oil filter at every oil change



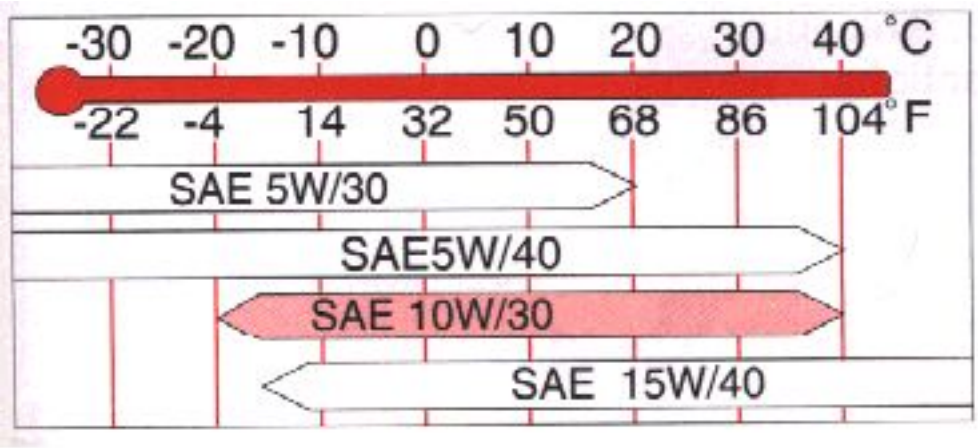
WARNING! Oil spilled on a hot exhaust pipe constitutes a fire risk.

pg. 8:7 Engine Oil, oil filter change interval

Oil quality

Meeting API specification SG, SG/CD, SH or Energy Conserving (EC) II

For best fuel economy and engine protection consult with your authorized Volvo retailer for recommended oils. Oils with a different quality rating may not provide adequate engine protection.



Viscosity (stable ambient temperatures):

Do not use oils with other viscosity ratings. The use of incorrect viscosity oil can shorten engine life. Volvo recommends the use of energy-conserving oils. Look for the API label. Synthetic oils complying with oil quality requirements are recommended for: driving in areas of sustained temperature extremes (hot or cold), when towing a trailer over long distances or for a prolonged driving in mountainous areas. Extra oil additives must not be used unless advised by an authorized Volvo retailer.
SAE 15W/40 is recommended for use in driving conditions that raise oil temperature and increase oil consumption (i.e., mountain driving; trailer towing).

NOTE: SAE 15W/40 must not be used at low ambient temperatures; see viscosity chart.

Changing oil and oil filter

Oil and oil filter changes should be made as specified in the following table:

If driving conditions include:	Then the correct oil/oil filter change interval is:

• Extended periods of idling and/or low-speeds operation • Frequent short trips (less than 7 miles = 11 km) • Extended periods of driving in dusty and/or sandy areas • Trailer towing • Driving in mountainous areas	EVERY 6 MONTHS OR EVERY 5,000 miles= 8,000 km WHICHEVER COMES FIRST
• Primarily highway driving • Frequent trips of longer than 7 miles = 11 km	EVERY 12 MONTHS OR EVERY 10,000 miles = 16,000 km WHICH EVER COMES FIRST

American Petroleum Institute (API) labels. These labels certify the oil conforms to the applicable standards and specifications of the API.

pg. 8:8 Servicing

Torque exhaust and intake manifold nuts

A loose manifold could alter air/fuel ratio and cause an increase in emissions and/or poor driveability.

Air cleaner

Replace the air cleaner cartridge with a new one every 30,000 miles (48,000 km). The cartridge should be replaced more often when driving under dirty and dusty conditions, The filter cannot be cleaned and, therefore, should always be replaced with a new one.

Vacuum fittings, hoses and connections

Unstable idle, misfiring, or poor emission control is often caused by leaking vacuum hoses or connections. Check hoses and connections on distributor vacuum unit, connections on heater control servo systems and hydraulic brake servo.

Checking and adjusting idle air control system

Your Volvo is equipped with an electronically-controlled idle air control system that requires no checking or adjustment.

Fuel system cap, tank and lines, and connections

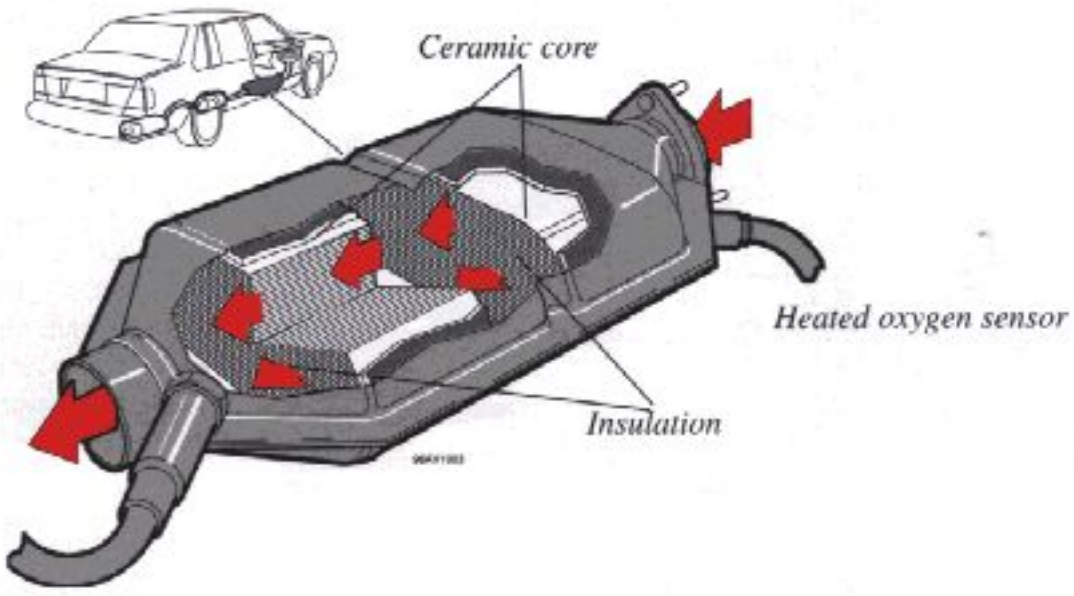
The effectiveness of the fuel system to contain hydrocarbons is dependent largely on a leakfree system. Check for proper sealing of gasoline filler cap which contains "0" ring-type seals. Check all evaporative hoses in vehicle for tightness. Check fuel lines under vehicle and repair if necessary.

Fuel (line) filter

The fuel line filter is located next to the fuel pump. This filter should be replaced every 100,000 miles (160,000 km). The filter is replaced as one complete unit.
Replace more frequently if contaminated fuel is introduced into the tank (or if there is reason to suspect that this has occurred).

Timing belt

Volvo recommends that the timing belt be replaced every 70,000 miles (112,000 km).



Three-way Catalytic Converter

This is a supplementary device in the exhaust system, designed to clean exhaust gases. This device is mainly a container with a ceramic material insert, designed to let the exhaust gases pass through channels in the insert. The channel walls are covered by a thin layer of platinum-palladium. These metals act as catalysts, permitting a chemical action to occur without actually taking part in it. The emission (CO, HC, NOx) content will increase if the three-way catalytic converter is damaged. Vehicles equipped with heated oxygen sensors use three-way catalytic converters containing platinum and rhodium.

CAUTION:
Vehicles with a three-way catalytic converter must use unleaded fuel only. Otherwise the three-way catalytic converter will become ineffective. See "Fuel requirements".

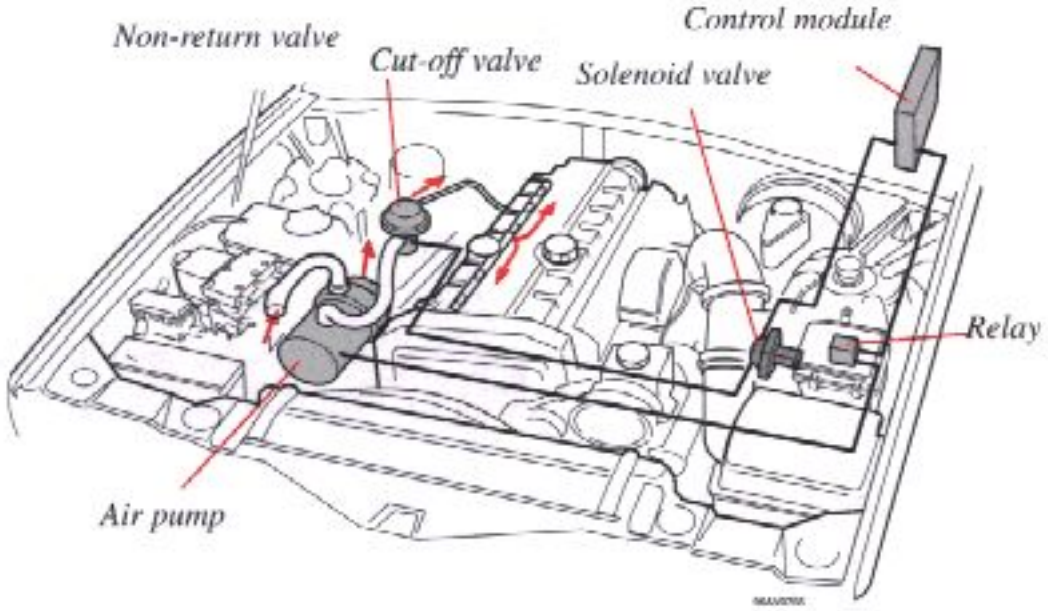
pg. 8:10 Servicing

Sequential Fuel Injection (SFI)

SFI is all-electronic and microprocessor-controlled. It can continually compensate for variations in engine load, speed and temperature to give the best economy and power. An important feature of the system is a mass air flow sensor that measures the mass of the inducted air instead of the volume. In this way the system can make instantaneous adjustments for changes in air temperature or density, thus always assuring the best economy with the lowest possible exhaust emissions.

Heated oxygen sensor

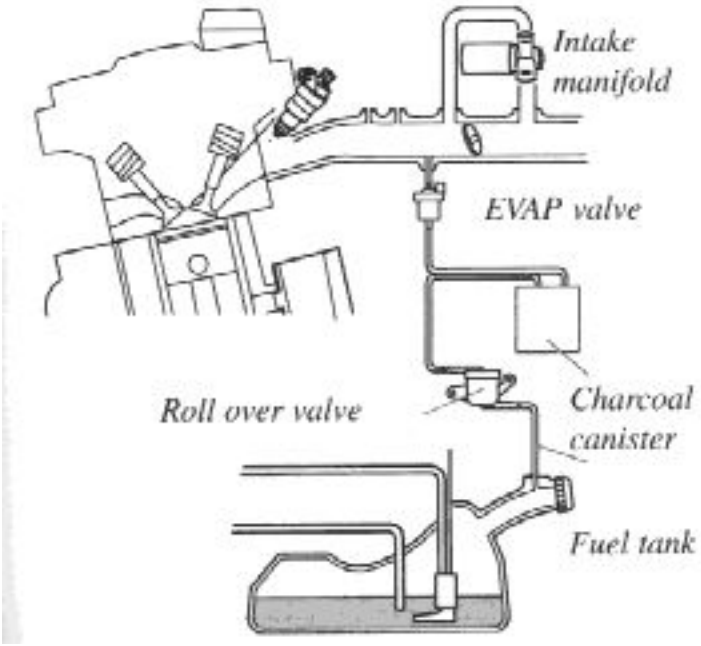
This is an emission control system designed to reduce emissions and improve fuel economy. The heated oxygen sensors monitor the composition of the exhaust gases leaving the engine. The exhaust gas analysis is fed into an electronic module. This adjusts the air-fuel ratio to provide optimum conditions for combustion and efficient reduction of the three major pollutants (hydrocarbons, carbon monoxide and oxides of nitrogen) by a three-way catalytic converter.



Air pump system

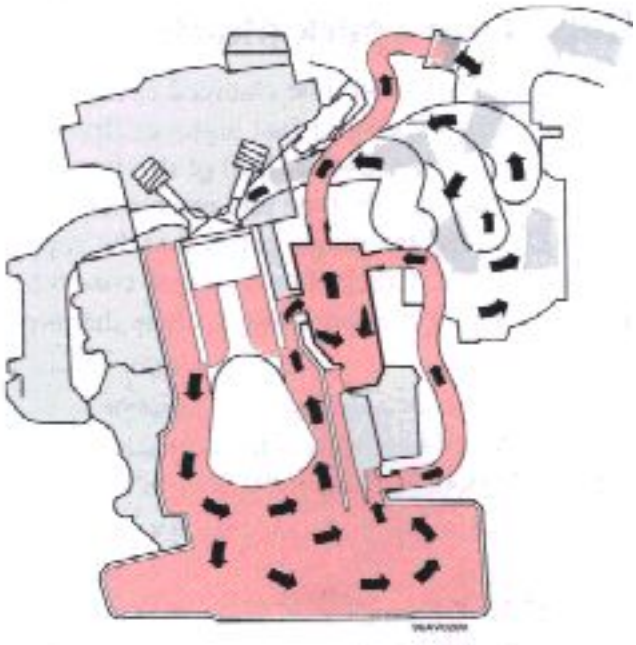
During cold starts, an electric pump is activated which directs air to the exhaust channels. This initiates a secondary combustion of exhaust gases which helps maximize hydrocarbon and carbon monoxide levels and reduces warm-up time for the three-way catalytic converter. The pump begins to function when the engine is started. It remains in operation until the three-way catalytic converter has reached normal operating temperature. A sound may be audible from the air pump during this warm-up period. This is normal. When idling, the air pump performs a self-diagnosis. A soft whining noise can be heard, which is also normal.

pg. 8:11 Servicing



Evaporative control system (EVAP)

The engine is equipped with a fuel evaporation system which prevents the emission of fuel vapour into the atmosphere. The system consists of a system of hoses in the fuel tank, a "Roll-Over" valve on the cross-member forward of the fuel tank, a carbon filter canister in the engine compartment which binds the fuel vapours, and an electric valve which, when necessary, empties the canister in the engine compartment of evaporated fuel and routes it into the engine.



Crankcase ventilation

The engine is provided with positive crankcase ventilation which prevents crankcase gases from being released into the atmosphere. Instead, the crankcase gases are admitted to the intake manifold and cylinders.

PCV system

The orifice nipple in the intake manifold and the filter at the end of the PCV hose in the aircleaner should be inspected every 60,000 miles (96,000 km). Check/replace rubber hoses at the same time.

pg. 8:12 Servicing

Replacing spark plugs

The spark plugs should be changed every 30,000 miles (48,000 km). However, city driving or fast highway driving may necessitate changing after 15,000 miles (24,000 km) of driving. When installing new plugs, be sure to fit the right type and use correct torque, see Specifications. When changing the plugs, check that the suppressor connectors are in good condition. Cracked or damaged connectors should be replaced. When changing the spark plugs, clean the terminals and the rubber seals.

CAUTION: Do not use silicone-based lubricants, which can have adverse effects on electrical components.

WARNING!
The distributor ignition system operates at very high voltages. Special safety precautions must be followed to prevent injury.
Always turn the ignition off when:

- connecting engine test and diagnostic equipment to the vehicle (timing light, tach-dwell tester, ignition oscilloscope, etc..).
- Replacing distributor ignition components e.g. plugs, coil, etc..
- Do not touch any part of the distributor ignition system while the engine is running. This may result in unintended movements and body injury.

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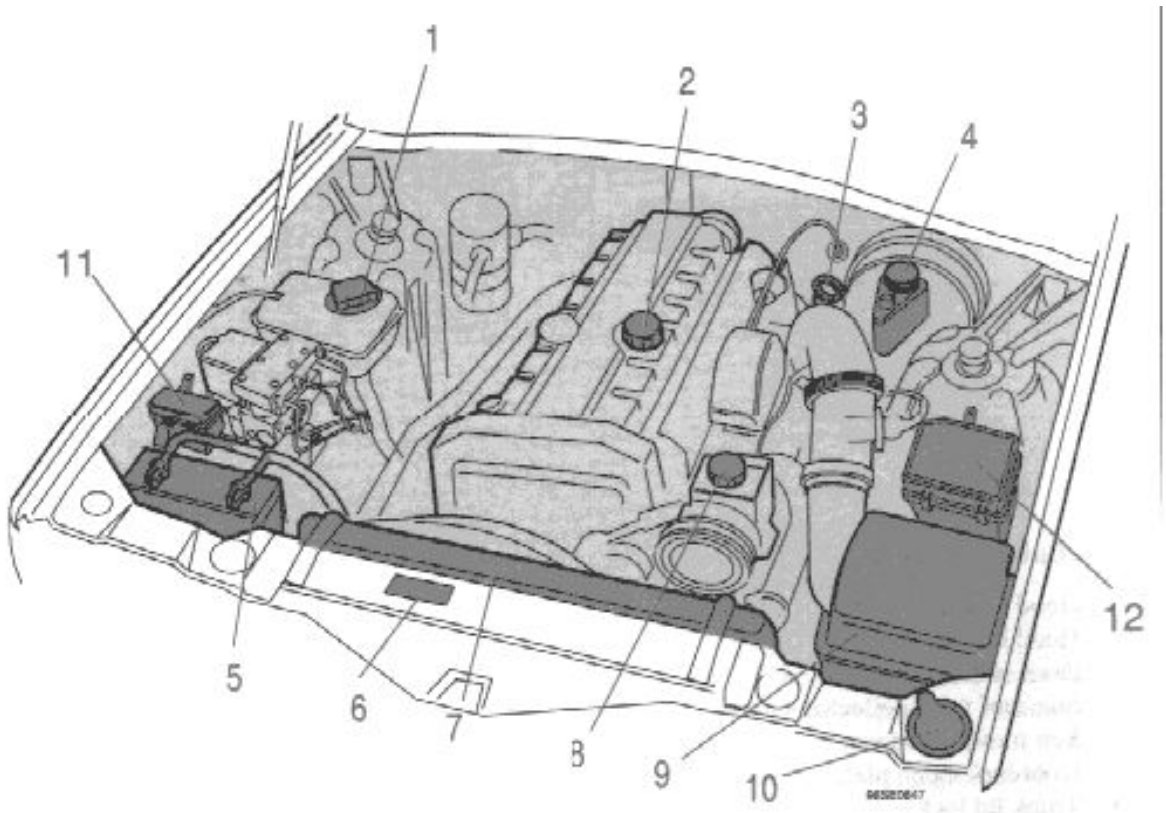
pg. 8:13 Engine compartment

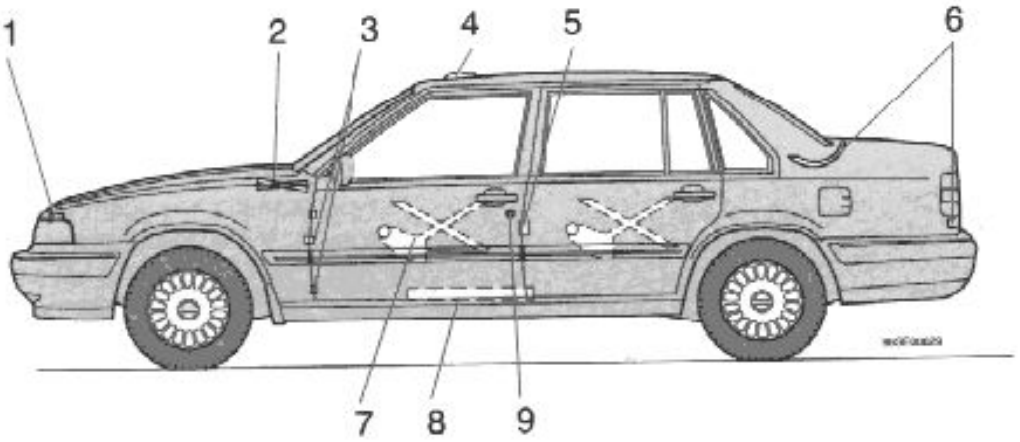
Engine compartment 960

1 Expansion tank, coolant
2 Oil filler cap, engine
3 Engine oil dip-stick
4 Brake fluid reservoir
5 Battery
6 Data plate
7 Radiator
8 Power steering fluid reservoir
9 Air cleaner
10 Washer fluid reservoir
11 Main fuse box
12 Relay/fuse box

WARNING!
The cooling fan may start or continue to operate (for up to 6 minutes) after the engine has been switched off.



pg. 8:14 Lubrication

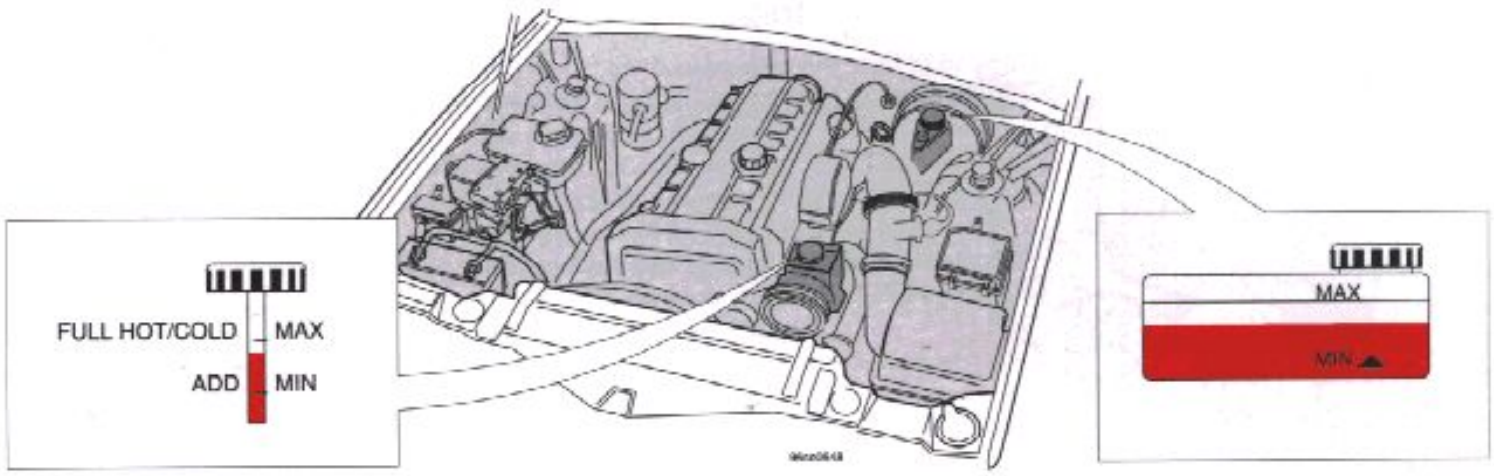


Door stop

No. Lubricating hint Lubricant
1 Hood lock and latch Oil
2 Hood hinges Oil
3 Door stop and hinges Oil
4 Sun roof wind deflector Oil
Sun roof mechanism Grease
5 Door lock catch plate Oil
6 Trunk lid lock Low temperature
keyhole and hinges grease
7 Window regulator Oil, grease
locking device low temperature
(on inside of door) grease
8 Front seat slide rail
and latch Oil
9 Door lock keyhole Low temperature grease or Volvo Teflon lock spray

To avoid rattles and unnecessary wear, the body should be lubricated at regular service intervals. This should be done by an authorized Volvo retailer.

pg. 8:15 Brake fluid, Power steering fluid



Power steering fluid

The fluid level should lie between the MIN and MAX on the side of the dipstick. The space between the marks corresponds to 0.2 US qts/liters.

Fluid type: ATF
Replace: no fluid change required.

Brake fluid

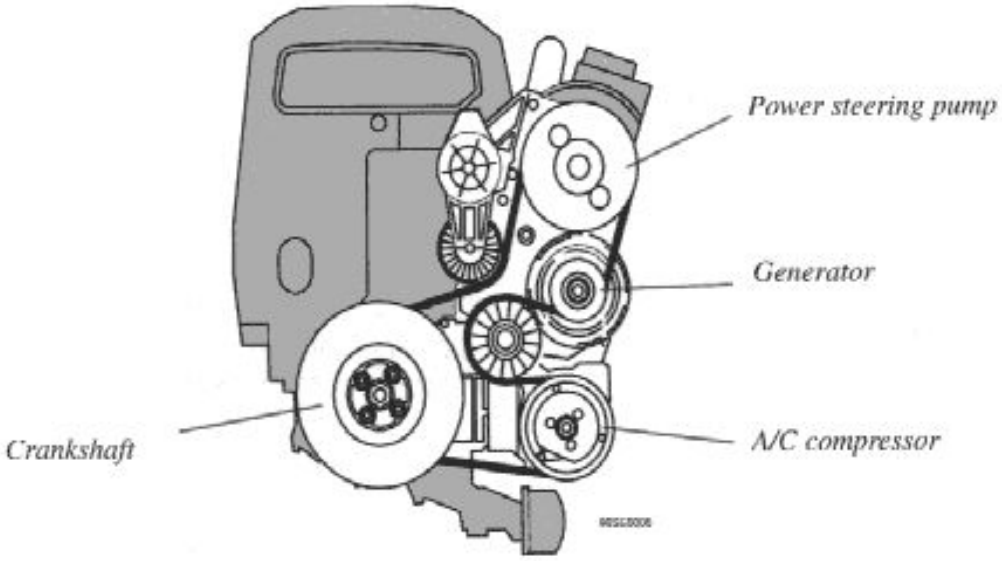
The fluid level should be between the MIN and MAX marks.

Fluid type: DOT 4+
Replace*: every second year or 30,000 miles (48,000 km). The brake fluid should be replaced once a year or every 15,000 miles (25,000 km) when driving under extremely severe conditions (mountain driving, hot climate, high humidity etc..)

Check, without removing the cap, that the level is above the "MIN" mark of the fluid reservoir.
Always entrust brake fluid changing to an authorized Volvo retailer.

* At owner request

pg. 8:16 Drive belt



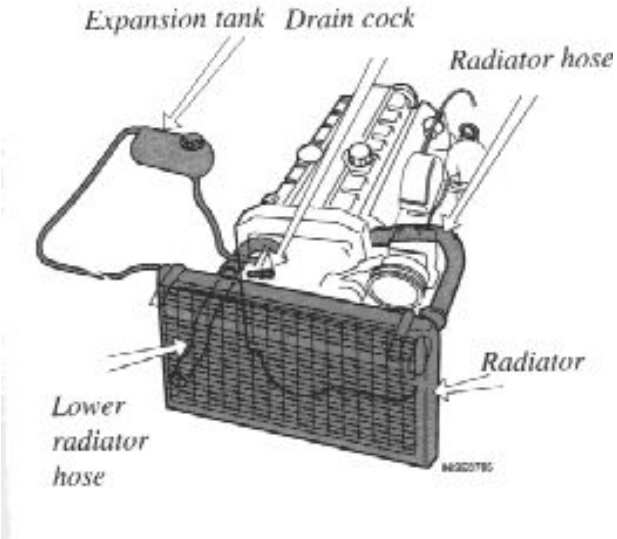
Belt check

Check the belt regularly to make sure it is in good condition and is clean. A worn or dirty belt can cause poor cooling and low generator output as well as impair the operation of the power steering and the air conditioning unit.

WARNING! The engine must not be running when this check is performed.

NOTE : The belt is equipped with a self-questioning mechanism and requires no adjustment between changes.

pg. 8:17 Cooling system



Check coolant level

The cooling system must be filled with coolant and not leak to operate at maximum efficiency. Check the coolant level regularly. The level should be between the "Max" and "Min" marks on the expansion tank. The check should be made with particular thoroughness when the engine is new or when the cooling system has been drained.
Do not remove the filler cap other than for topping-up with coolant. Frequent removal may prevent coolant circulations between the engine tank during engine warm-up and cooling.

Changing coolant

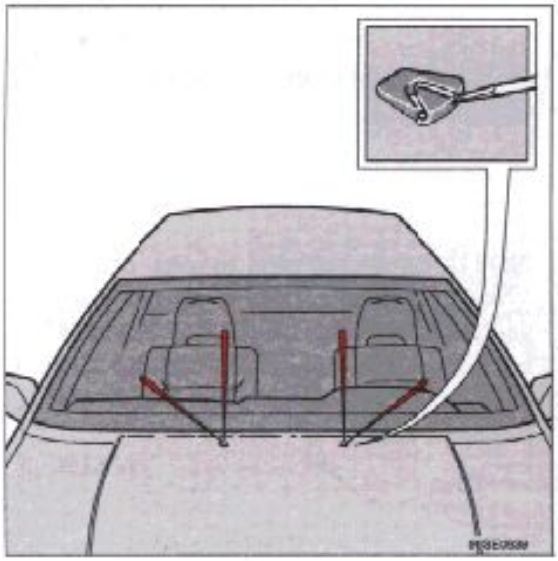
Normally, the coolant does not need to be changed. If the system must be drained, use the following procedure:
Remove the expansion tank cap. Open the drain cock on the right side of the engine block and disconnect the lower radiator hose.
Fill coolant through the expansion tank. The heater controls should be fully open when draining and filling.
Add coolant until the level is up to the MAX mark or slightly above.
Start the engine and run until hot. Check the cooling system connections for tightness. Also re-check the coolant level.
Capacity: See "Specifications"
coolant: Volvo Genuine Coolant/Antifreeze only

CAUTION
The cooling system must always be kept filled to correct level.
If it is not kept filled, there can be high local temperatures in the engine which could result in damage.
Different types of anti-freeze/coolant may not be mixed.

WARNING: If the engine is warm and you are going to top up coolant, unscrew the cap slowly in order to allow any excess pressure to escape.

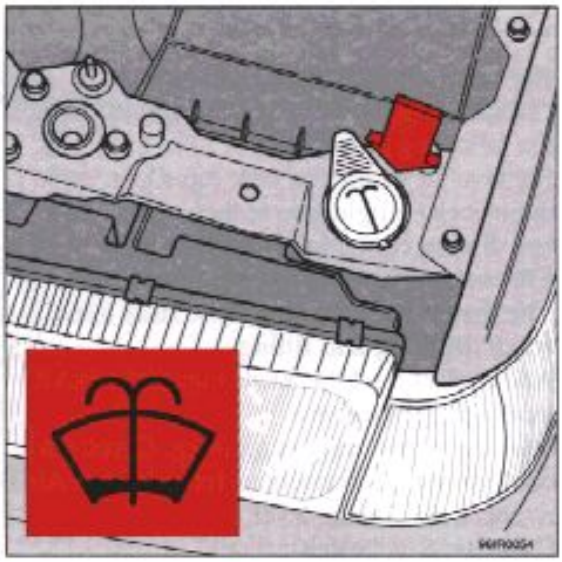
NOTE: Do not top up with water only. Water by itself reduces the rust-protective and anti-freeze qualities of the coolant and has a lower boiling point. It can also cause damage to the cooling system if it should freeze.

pg. 8:18 Adjusting washer nozzles, Washer fluid reservoir



Adjusting washer nozzles

The washer jets should spray the windshield as shown. Use the edge of a small screwdriver to adjust the nozzles, if necessary.



Washer fluid reservoir

The washer fluid reservoir is located in the engine compartments and holds approx. 0.5 US gal. (2 liters) - sedans and 0.8 US gal (3.2 liters) - wagons. During cold weather, the reservoir should be filled windshield washer solvent containing anti-freeze.

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Specifications

pg. 9:1 Specifications

Specifications

This chapter contains facts and figures pertaining to the technical specifications of your car.

9:2 Oil/Fluids specifications
9:3 Engine specifications
9:4 Cooling system
9:4 Fuel system
9:4 Distributor ignition system
9:5 Transmission
9:5 Suspension
9:6 Electrical system/bulbs
9:7 Capacities
9:8 Service manuals, Road assistance
9:9 Dimensions and weights

pg. 9:2 Oil/Fluids Specifications

Oil quality

Meeting API specification SG, SG/CD, SH or Energy Conserving (EC) II

For best fuel economy and engine protection, consult with your authorized Volvo retailer for recommended oils. Oil with a different quality rating may not provide adequate engine protection. Synthetic oils complying with oil quality requirements are recommended for : driving in areas of sustained temperature extremes (hot or cold), when towing a trailer over long distances or for prolonged driving in mountainous areas.
Extra oil additives must not be used unless advised by an authorized Volvo retailer.

Capacity (including filter) : 5.9 US qts = 5.75 liters

SAE 15 W/40 oil is recommended for use in severe driving conditions which involve high oil temperatures or excessive oil consumption (e.g. mountain driving with frequent deceleration, or high-speed driving.)

Automatic transmission fluid	Quality : ATF Dexron IIE/III and Mercon	Capacity : 7.9 US qts. (7.5 liters)
Rear axle oil	Quality : API-GL_5 (MIL-L-2105 C or D) SAE 80W-90	Capacity : 1.4 US qts (1.3 liters) sedans/wagons
Power steering fluid	Quality : ATF F,G	Capacity : 1.05 US qts. (1.0 liters)
Brake fluid	Brake fluid type : DOT 4+	Capacity : 1.05 US qts. (1.0 liters)

All specifications are subject to change without notice.

pg. 9:3 Specifications

Engine

Liquid-cooled, gasoline, 6-cylinder, in-line engine. Aluminum alloy cylinder block with cast-iron cylinder liners cast directly into block. Aluminum alloy cylinder head with double overhead camshafts and separate intake and outlet channels.
Engine lubrication is provided by an eccentric pump driven from the crankshaft. Full-flow type oil filter.
Exhaust emission control accomplished by fuel injection, heated oxygen sensors and three-way catalytic converter

Type designation Volvo B 6304 S

Output (SAE J 1349) 181 hp at 5200 rpm
(135 kW at 73rps)

Max. torque (SAE J 1349) at rpm 199 ft. lbs. (274 Nm) at 4100 rpm
Number of cylinders 6
Bore 3.27" (83 mm)
Stroke 3.54" (90 mm)
Displacement 2.92 liters
Compression ratio 10.7:1
Valve clearance: Self-adjusting

All specifications are subject to change without notice.

pg. 9:4 Specifications

Cooling system

Type: Positive pressure, closed system
Thermostat-begins to open at 186°F (87°C)

Coolant: Volvo Genuine Coolant/Anti-freeze

Capacity: 10.5 qts (10 liters)

Fuel system

The engine is equipped with a sequential fuel injection system

Distributor ignition System

Firing order 1-5-3-6-2-4
Distributor ignition setting Not adjustable
Spark plugs Bosch FR 6 DC (or equivalent)
Spark plug gap 0.024-0.028" (0.6-0.7 mm)
Tightening torque 17.3-20.3 ft. lbs. (23-27 Nm)

pg. 9:5 Specifications

POWER TRANSMISSION

Automatic transmission:

Reduction ratios: AW 40
1st gear 2.80:1
2nd gear 1.53:1
3rd gear 1:1
Overdrive 0.71:1
Reverse 2.39:1

Rear axle:
Reduction ratio 3.73:1

All specifications are subject to change without notice.

Front suspension

McPherson-type spring and strut suspension. Shock absorbers housed in strut casing. Rack-and-pinion steering.

Safety-type steering column.

The alignment specifications apply to an unladen car, but include fuel, coolant, and spare wheel.
Toe-in, measured on the wheel rim: 2.2 mm +/- 1.0 mm (15" wheels)
wheel rim: 2.3 mm +/- 1.0 mm (16" wheels)
tire sides: 2.8 +/- 1.3 mm

Rear Suspension

Multi-link rear wheel suspension consisting of four elements per side: a trailing support arm with load leveling shock absorber ("Nivomat" level-regulating system on certain models), an upper L-shaped link, a lower traverse link, and an angled rear rod to control wheel toe-in.

Toe-in, measured at the wheel rim: (0.4+/- 0.5 mm)
tire sides: (0.5+/- 0.8mm)

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pg. 9:6 Specifications

ELECTRICAL SYSTEM

12 V, negative ground.
Voltage-controlled generator. Single-wire system with chassis and engine used as conductors.

Battery
Voltage 12 V
Battery, type Maintenance free
Capacity 600 A/125 min
Generator, rated output 1400 W
max. current 120 Amp

The battery contains corrosive and poisonous acids. It is of the utmost importance that old batteries are disposed of correctly. Your Volvo retailer can assist you in this matter.

Bulbs

Bulb	Trade No.	Power	Socket	No. of bulb
Headlights	HBI/9004	65/45 W	-	2
Parking lights,				
turn signals, front	1157 N. A.	21/5 W/24/2.2 cp	BAY 15	2
turn signals, rear	1156	21W/32cp	BA 15s	2
Tail lights	2x67	5 W/4cp	BA 15s	2

Brake light	1156	21 W/32cp	BA 15s	2*
Tail light/Brake light	1157	21/5W/32/3cp	BA 15d	2**
High-mounted brake light	1156	21 W/32cp	BA 15s	1
Back-up lights	1156	21 W/32cp	BA 15s	2
Rear fog light	1156	21 W/32cp	BA 15s	1
Front fog lights	GE881	27 W	-	2

* Sedan
** Wagon

The following bulbs may be obtained from your nearest Volvo retailer:

Bulbs	Power	Socket	No. of bulbs
License plate light (wagon)	4 W	BA 9s	2
(sedan)	5 W	W 2.1x9.5d	2
Door warning lights	3 W	W 2.1x9.5d	4
Interior light	10 W	SV8.5	1
Reading lights, front	5 W	W 2.1x9.5d	2

rear	5 W	W 2.1x9.5d	2
Trunk light	10 W	SV8.5	1
Glove box light	2 W	BA9 s	1
Instrument lighting	3 W	W 2.1x9.5d	3
Ashtray rear	1.2 W	Volvo P/ N966326	1
Seat belt lock	1.2 W	Volvo P/ N966326	1
Instrument warning/			
indicator lights	1.2 W	Volvo P/ N966326	-

All specifications are subject to change without notice

pg. 9:7 Specifications

Vehicle Loading

The tires on your Volvo should perform to specifications at all normal loads when inflated as recommended on the tire information label. The label is located on the rear-facing edge of the right-front door. This label lists both tire and vehicle design limits. Do not load your car beyond the load limits indicated.

Sample Tire Pressure Label

WARNING!
Improperly inflated tire will reduce tire life, adversely affect vehicle handling and can possibly lead to failure resulting in loss of vehicle control prior warning.

All specifications are subject to change without notice.

Capacities

Fuel tank (approx.) 21.1 US gal.
80 liters
Cooling System 10.5 US qts.
(10 liters)
Engine 5.9 US qts. *
at oil change 5.75 liters
Engine, 5.5 US qts. *
excl. oil filter 5.15 liters
Automatic transmission 7.9 US qts.
7.5 liters
Rear axle 1.4 US qts.
1.3 liters
Power steering gear 0.8 US qts.
0.8 liter
* if oil cooler is drained, add 0.47 US qts (0.4 liter)

pg. 9:8 Service manuals, Road assistance

Service Manuals for your Volvo are available for purchase. These are the same manuals used by competent Volvo technicians.

Major sections within the Service Manual System include: 0-General Information; 1- Lubrication and Service; 2- Engine; 3- Electrical System; 4- Power Transmission; 5-Brakes; 6- Suspension and Steering; 7- Springs Shock Absorbers and Wheels; 8- Body and Interior.

A Literature Catalog Request Card was placed in the car prior to delivery from the retailer to you. Complete ordering information is provided

All specifications are subject to change without notice.

Volvo supports Voluntary Mechanic Certification by the A.S.E. Certified mechanics have demonstrated a high degree of competence in specific areas. Besides passing exams each mechanic must also have worked in the field for two or more years before a certificate is issued. These professional mechanics are fully able to analyze vehicle problems and perform the necessary service procedures to keep your Volvo at peak operating condition.

Note that the above pertains to USA only.

Your new Volvo comes with a four year road assistance program named ON-CALL. Additional information, features, and benefits are described in a separate information package in your glove compartment.

pg. 9:9 Specifications

Dimensions and weights

U.S.A. and Canada
Length (sedan) 191.8 in (487.1 cm)
Length (wagon) 191.4 in (486.1 cm)
width 68.9 in (175 cm)
Height, Sedan 56.6 in (141 cm)
Wagon 57.6 in (145 cm)
Wheelbase 109 in (277 cm)
Track, front 59.2 in (150 cm)
Sedan rear 59.7 in (152 cm)
Wagon rear 59.7 in (152 cm)
Turning circle, (between curbs) 31.8 ft. (9.7 m)
Cargo capacity
sedans 16.6 cu. ft. (0.49 m wagons (rear seat up) 39.3 cu. ft. (1.1 m)
wagon (rear seat down) 74.9 cu. ft. (2.1 m)

Weights Canada only

Curb weight (sedan) 3439-3530 lbs (1560-1601 kg) 1562-1604 kg
Curb weight (wagon) 3536-3591 lbs (1604-1629 kg) 1602-1627 kg
Gross vehicle weight (sedan) 4450 lbs (2018 kg) 2020kg
Gross vehicle (wagon) 4630 lbs (2100 kg) 2100 kg
Capacity Weight (sedan)* 919 lbs (415 kg) 416 kg
Capacity Weight (wagon)* 1038 lbs (471 kg) 473kg

Permissible axle weight, front (sedan) 2170 lbs (984 kg) 980 kg
front (wagon) 2160 lbs (979 kg) 980 kg
rear (sedan) 2310 lbs (1048 kg) 1050 kg
rear (wagon) 2530 lbs (1148 kg) 1150 kg
Max. roof load ** 220lbs (100 kg)
Max. trailer weight (w/o brakes) 1100 lbs (500 kg)
Max. trailer weight (with brakes - 2" ball) 3300 lbs (1500 kg)
Max. trailer weight (with brakes - 1 7/8" ball) 2000lbs (908 kg)
Max. trailer tongue weight 165 lbs (75 kg)

See also section "Trailer hauling".
Consult your Volvo retailer for information.

WARNING:
When adding accessories, equipment, luggage and other cargo to your vehicle, the total loaded weight capacity of the vehicle must not be exceeded.

* The max permissible axle loads or gross vehicle weight must not be exceeded.

** For permanent roof racks, check the manufacturer's weight specifications.

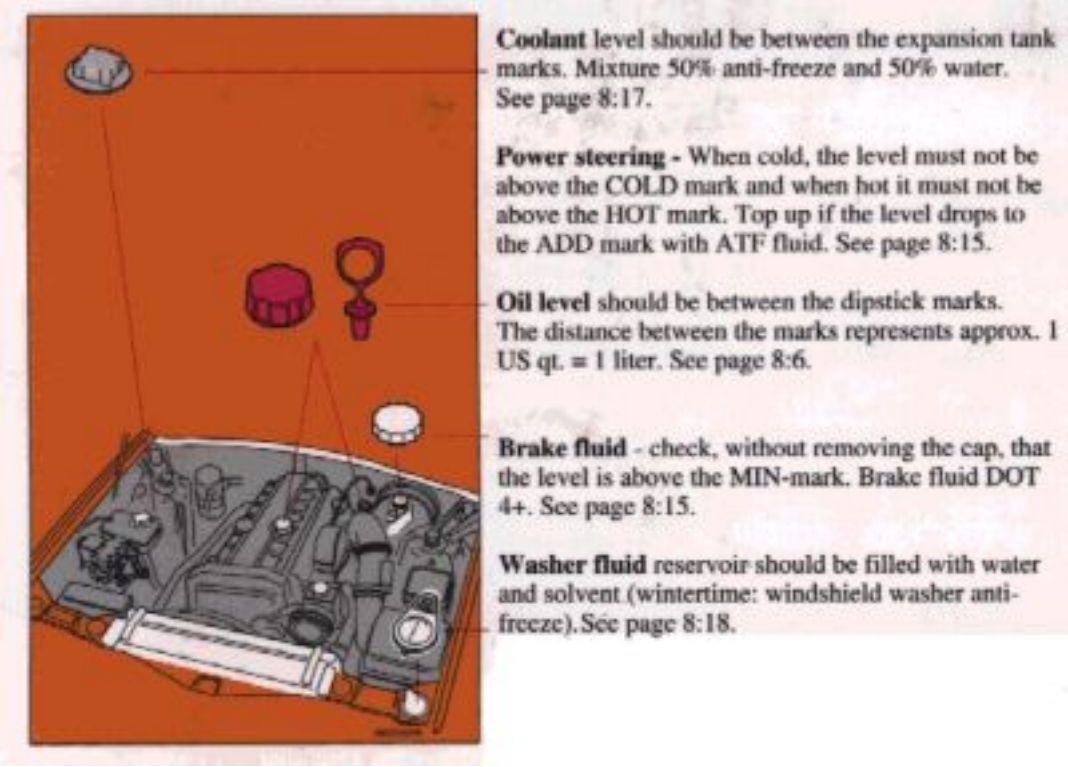
All specifications are subject to change without notice.

Inside back cover

WARNING!
Detergents and solvents
Do not use gasoline containing lead or benzene as a detergent or solvent. Both lead and benzene are toxic and may be hazardous to your health.
Installation of optional equipment/use of mobile telephones
Incorrectly installed optional equipment, alarm systems or the use of mobile telephones which are not connected to a suitable antenna can cause faults in the car's electronic control systems. Your car is equipped with an accessory connector located under the dashboard on the driver's side. Please consult your Volvo retailer if you have any questions before connecting accessory or optional equipment to the vehicle's electrical systems.
Carbon monoxide
Carbon monoxide is a poisonous, colorless and odorless gas which is present in all exhaust gases. If you ever smell exhaust fumes from inside the vehicle, make sure the passenger compartment is

ventilated and immediately return the vehicle to your retailer for correction.
Never sit in a parked or stopped car for any extended amount of time, nor have it unattended while the engine is running.
Never operate the engine in confined, unventilated areas.

Back Cover


Coolant level should be between the expansion tank marks. Mixture 50% anti-freeze and 50% water. See page 8:17.
Power steering - When cold, the level must not be above the COLD mark and when hot it must not be above the HOT mark. Top up if the level drops to the ADD mark with ATF fluid. See page 8:15.
Oil level should be between the dipstick marks. The distance between the marks represents approx. 1 US qt. = 1 liter. See page 8:6.
Brake fluid - check, without removing the cap, that the level is above the MIN-mark. Brake fluid DOT 4+. See page 8:15.
Washer fluid reservoir should be filled with water and solvent (wintertime: windshield washer anti-freeze). See page 8:18.

UNLEADED FUEL ONLY
VOLVO

Octane rating, see p. 4:3.

Tire pressure, see label located on rear edge of right front door.

Bulbs	Power	Socket	US Bulb No.

1	70 W		HB3/9005
2	60 W		HB4/90006
3	5 W	BA 15s	67
4	21 W	BA 15s	1156
5	21/5 W	BAY 15d	1157
6	21 W	BAU 15s	-
7	21/5 W	BAY 15d	1157NA

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